

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549
FORM 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2022

or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission File Number: 001-40557



INTEGRAL AD SCIENCE HOLDING CORP.

(Exact name of registrant as specified in its charter)

Delaware

83-0731995

(State or Other Jurisdiction of Incorporation or Organization)

(I.R.S. Employer Identification No.)

Not applicable¹

(Address of Principal Executive Offices)

(Zip Code)

(646) 278-4871

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

<u>Title of each class</u>	<u>Trading Symbol</u>	<u>Name of each exchange on which registered</u>
Common Stock, \$0.001 par value per share	IAS	The NASDAQ Stock Market LLC

Securities registered pursuant to Section 12(g) of the Act: **None**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input checked="" type="checkbox"/>	Non-Accelerated Filer	<input type="checkbox"/>
Smaller reporting company	<input type="checkbox"/>			Emerging growth company	<input checked="" type="checkbox"/>

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant has filed a report on and attestation to it management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements.

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to § 240.10D-1(b).

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

¹ Any stockholder or other communication required to be sent to our principal executive offices may be directed to our mailing address: 99 Wall Street, #1950, New York, NY 10005

As of June 30, 2022, the aggregate market value of the common stock beneficially held by non-affiliates of the registrant was approximately \$606 million based on the closing sales price of the common stock as reported on Nasdaq.

On February 28, 2023, the registrant had 154,417,454 shares of common stock, \$0.001 par value, outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's Proxy Statement relating to the 2023 Annual Meeting of Stockholders are incorporated by reference in Part III of this Annual Report on Form 10-K. The Proxy Statement will be filed with the Securities and Exchange Commission within 120 days of the registrant's fiscal year ended December 31, 2022.

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FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains forward-looking statements that are subject to risks and uncertainties. All statements other than statements of historical fact included in this Annual Report are forward-looking statements. Forward-looking statements give our current expectations and projections relating to our financial condition, results of operations, plans, objectives, future performance and business. You can identify forward-looking statements by the fact that they do not relate strictly to historical or current facts. These statements may include words such as “anticipate,” “estimate,” “expect,” “project,” “plan,” “intend,” “believe,” “may,” “will,” “should,” “can have,” “likely,” and other words and terms of similar meaning in connection with any discussion of the timing or nature of future operating or financial performance or other events. For example, all statements we make relating to our estimated and projected costs, expenditures, cash flows, growth rates and financial results or our plans and objectives for future operations, growth initiatives, or strategies are forward-looking statements. All forward-looking statements are subject to risks and uncertainties that may cause actual results to differ materially from those that we expected, including:

- the adverse effect on our business, operating results, financial condition, and prospects from various macroeconomic factors, including instability in geopolitical or market conditions generally;
- public health outbreaks, epidemics or pandemics, such as the ongoing effects of the COVID-19 pandemic;
- our dependence on the overall demand for advertising;
- our failure to innovate or make the right investment decisions;
- our failure to maintain or achieve industry accreditation standards;
- our ability to compete successfully with our current or future competitors in an intensely competitive market;
- our dependence on integrations with advertising platforms, digital service providers (“DSPs”), and proprietary platforms that we do not control;
- our international expansion;
- our ability to expand into new channels;
- our ability to sustain our profitability and revenue growth rate decline;
- risks that our customers do not pay or choose to dispute their invoices;
- risks of material changes to revenue share agreements with certain DSPs;
- our ability to effectively manage our growth;
- the impact that any acquisitions we have completed in the past and may consummate in the future, strategic investments, or alliances may have on our business, financial condition, and results of operations;
- our ability to successfully execute our international plans;
- the risks associated with the seasonality of our market;
- our ability to maintain high impression volumes;
- the difficulty in evaluating our future prospects given our short operating history;
- uncertainty in how the market for buying digital advertising verification solutions will evolve;
- our ability to provide digital or cross-platform analytics;

- our ability to maintain our corporate culture;
- risks posed by earthquakes, fires, floods, and other natural catastrophic events;
- interruption by man-made problems such as terrorism, computer viruses, or social disruption;
- the risk of failures in the systems and infrastructure supporting our solutions and operations;
- our ability to avoid operational, technical, and performance issues with our platform;
- risks associated with any unauthorized access to user, customer, or inventory and third-party provider data;
- our inability to use software licensed from third parties;
- our ability to provide the non-proprietary technology, software, products, and services that we use;
- the risk that we are sued by third parties for alleged infringement, misappropriation, or other violation of their proprietary rights;
- our ability to obtain, maintain, protect, or enforce intellectual property and proprietary rights that are important to our business;
- our involvement in lawsuits to protect or enforce our intellectual property;
- risks that our employees, consultants, or advisors have wrongfully used or disclosed alleged trade secrets of their current or former employers;
- risks that our trademarks and trade names are not adequately protected;
- the impact of unforeseen changes to privacy and data protection laws and regulation on digital advertising;
- the risk that a perceived failure to comply with laws and industry self-regulation may damage our reputation; and
- other factors disclosed in the section entitled “Risk Factors” and elsewhere in this Annual Report.

We derive many of our forward-looking statements from our operating budgets and forecasts, which are based on many detailed assumptions. While we believe that our assumptions are reasonable, we caution that it is very difficult to predict the impact of known factors, and it is impossible for us to anticipate all factors that could affect our actual results. Important factors that could cause actual results to differ materially from our expectations, or cautionary statements, are disclosed under the sections entitled “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in this Annual Report. All written and oral forward-looking statements attributable to us, or persons acting on our behalf, are expressly qualified in their entirety by these cautionary statements as well as other cautionary statements that are made from time to time in our other Securities and Exchange Commission (“SEC”) filings and public communications. You should evaluate all forward-looking statements made in this Annual Report in the context of these risks and uncertainties.

We caution you that the important factors referenced above may not contain all of the factors that are important to you. In addition, we cannot assure you that we will realize the results or developments we expect or anticipate or, even if substantially realized, that they will result in the consequences or affect us or our operations in the way we expect. The forward-looking statements included in this Annual Report are made only as of the date hereof. We undertake no obligation to update or revise any forward-looking statement as a result of new information, future events or otherwise, except as otherwise required by law.

Part I.

Item I. Business

Our Company

Integral Ad Science Holding Corp. (together with its subsidiaries, "IAS," the "Company" or "we") is a leading digital media quality company offering advertising measurement, optimization and publisher solutions. Our mission is to be the global benchmark for trust and transparency in digital media quality for the world's leading brands, publishers, and platforms.

With our cloud-based technology platform and the actionable insights it provides, we deliver independent measurement and verification of digital advertising across all devices, channels, and formats, including desktop, mobile, connected TV ("CTV"), social, display, and video. Our proprietary and Media Rating Council (the "MRC") accredited Quality Impressions[®] metric is designed to verify that digital ads are served to a real person rather than a bot, viewable on-screen, and appear in a brand-safe and suitable environment in the correct geography.

Without an independent evaluation of digital advertising quality, brands and their agencies previously relied on a wide range of publishers and ad platforms to self-report and measure the effectiveness of campaigns without a global benchmark to understand success. We are an independent, trusted partner for buyers and sellers of digital advertising to increase accountability, transparency, and effectiveness in the market. We help advertisers optimize their ad spend and better measure consumer engagement with campaigns across platforms, while enabling publishers to improve their inventory yield and revenue.

As a leading digital media quality partner, we have deep integrations with all the major advertising and technology platforms including Facebook, Instagram, Google, YouTube, LinkedIn, Amazon, Microsoft, Pinterest, Snap, Spotify, TikTok, The Trade Desk, Twitter, Xandr, and Yahoo.

Our platform uses advanced artificial intelligence ("AI") and machine learning ("ML") technologies to process over 100 billion daily web transactions on average. With this data, we deliver real-time insights and analytics to our global customers through our easy-to-use reporting platform, IAS Signal[™], helping brands, agencies, publishers, and platform partners improve media quality and campaign performance. As of December 31, 2022, our solutions were globally activated across 111 countries.

We serve customers globally with 15 offices in 11 countries. Our efficient go-to-market strategy has fueled our growth and ability to serve our customers. Our net revenue retention rates of advertising customers were 118%, 128% and 108% for the years ended December 31, 2022, 2021 and 2020, respectively. For a definition of net revenue retention, see Part II, Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations - Key Business Metrics."

The digital advertising market is expected to reach \$835 billion in global spend by 2026, growing at a compound annual growth rate of 8% from 2022 to 2026, according to eMarketer. We intend to capitalize on this opportunity and several high growth segments including programmatic, contextual, social, and CTV. We believe that growing our global customer base represents a significant long-term opportunity, especially for markets outside of the United States and Western Europe.

Our Industry

We believe that IAS is well-positioned to benefit from several significant digital marketing trends and shifts in consumer behavior, including:

Significant Growth in Digital Media Usage and Ad Spend According to eMarketer, U.S. adults were expected to spend over 13 hours per day with media in 2022, of which 62.3% were expected to be spent with digital media. That share is expected to increase to 63.7% by 2023. Additionally, eMarketer estimates that the global digital display, digital classifieds, and other digital markets will surpass \$350 billion in 2023 and will grow to over \$400 billion by 2025. As consumers spend even more time online, we believe that this shift will fuel continued growth in ad spend across all digital channels.

Increased Focus on Marketing Efficiency Marketers are increasingly aware of wasted media spend related to ad fraud (for example, when ads are served to bots or non-human traffic instead of real people) or viewability issues (for example, when ads are served but never viewed by a person). Juniper Research estimates advertisers will lose approximately \$100 billion in annual ad spend to ad fraud alone by 2024, an increase from approximately \$42 billion in 2019.

Importance of Brand Reputation Managing brand reputation is a top priority for many modern marketers. To fulfill their brand values and campaign objectives, more brands are focused on ensuring their ad campaigns run adjacent to content that meets their specific standards. To achieve this, marketers are adopting scalable and customizable brand safety and brand suitability solutions to protect their brand reputation and increase campaign performance. According to a 2022 survey by Advertiser Perceptions, 75% of those surveyed wanted greater oversight over where their ads appear.

Acceleration of Ad-Supported CTV According to eMarketer, consumers are watching more digital video and CTV programming, spending on average 56% of their total digital video time on CTV devices in 2022. The COVID-19 pandemic accelerated what we believe will be ongoing consumer and advertiser adoption. According to eMarketer, U.S. CTV ad spend is expected to more than double from \$21.2 billion in 2022 to \$43.6 billion in 2026. With more CTV ad inventory available, we believe this will drive greater demand for verification solutions to ensure that larger ad budgets are deployed effectively and efficiently.

Changing Regulatory Landscape and Importance of Contextual Targeting With increased attention on user privacy and the deprecation of third-party cookies, context-based advertising has emerged as a necessary tool for brands. Updated regulations, such as the general data protection regulation ("GDPR"), the California Consumer Privacy Act (the "CCPA") and the California Privacy Rights Act (the "CPRA"), have increased complexity surrounding personal data and cookie usage. Our leading Context Control solution uses semantic language technology to determine the context, sentiment, and emotion of digital content. With these sophisticated tools available, we expect more advertisers to adopt contextual targeting instead of audience data.

Growth of Programmatic Advertising Programmatic advertising, the automated buying and selling of digital ads, has grown tremendously by helping marketers to optimize performance and pricing through real-time signals. According to eMarketer, worldwide programmatic digital display ad spending is expected to grow from \$269 billion in 2022 to \$343 billion in 2024. Programmatic buying enables advertisers to target the highest value inventory in real-time to reach their audience faster and more efficiently. However, programmatic advertising is heavily susceptible to fraud, viewability, and brand safety and suitability risks, given the speed and opacity of the transaction process. According to eMarketer, ad fraud ranked as the second highest concern among programmatic advertisers in 2022.

Our Market Opportunity

We believe there is significant market opportunity to provide advertisers, agencies, publishers, and platforms with measurement, optimization, and publisher solutions that address viewability, brand safety and suitability, ad fraud prevention, contextual targeting, reporting, and inventory yield management. Based on a March 2021 analysis by Frost & Sullivan, we estimate the global market opportunity for our ad verification solutions to be \$9.5 billion and expect it to grow at a 16.2% compound annual growth rate ("CAGR") from 2021 to 2025. We plan to work with the top 500 global advertisers by targeting high-spend verticals and brands with a natural sensitivity for brand safety, brand suitability, and return on ad spend ("ROAS") needs. We believe we can increase our market share by strengthening our relationship with the leading social platforms, enhancing our programmatic solutions, deriving benefit from our broad global position, and leveraging our differentiated data science and market-leading contextual capabilities.

In addition, we believe we are well poised for further expansion into the contextual targeting and ad measurement and effectiveness markets. There are expansion opportunities beyond the existing use cases we currently serve such as providing measurement of ad effectiveness and efficiency to brands and helping them understand marketing performance and targeting opportunities. Based on a March 2021 analysis by Frost & Sullivan, we estimate the global market opportunity of ad measurement and effectiveness solutions to be \$6.3 billion and expect it to grow at a 20.5% CAGR from 2021 to 2025.

Our statement that we are a leading digital media quality and advertising verification company is based on an independent third party market study by Frost & Sullivan we commissioned in 2021. The study shows we are a leader in global market share by revenue, including leading in international markets such as Europe, Middle East, and Africa ("EMEA") and Asia and Pacific ("APAC") by revenues in those regions, respectively.

Our Strengths

We believe that the following capabilities reflect our strengths and competitive advantages.

Comprehensive suite of ad verification solutions

As consumers watch more video-formatted content from both professional and user-generated sources, IAS has invested in new technologies for scanning and classifying video content as safe and suitable for each advertiser's campaign objectives.

IAS Quality Impressions[®] is our MRC-accredited, proprietary metric that ensures digital media quality standards for advertising effectiveness. To achieve Quality Impressions[®], a digital ad must be served to a real person rather than a bot, viewable on-screen, and presented in a brand-safe and suitable environment, all within the desired campaign geography. Additionally, our leading contextual capability, Context Control, helps brands avoid and target content based on their specific values or campaign objectives. Our technology is designed to determine sentiment and emotional classification of content at a global scale. For publishers, we help them increase the monetization of their advertising inventory. Our solutions are available across digital channels, ad formats, purchase methods, and devices.

IAS also offers a Quality Attention metric, which is designed to measure attention by evaluating factors such as time-in-view ("TIV") and share of screen. With Quality Attention, advertisers can optimize campaigns and maximize attention.

Additionally, IAS offers a Quality Impressions[®] cost per thousand impressions ("CPM") metric, helping advertisers understand the most cost efficient paths to the highest quality media, such as the achievement of Quality Impressions[®] within programmatic environments such as Google's Digital and Video 360.

Integrations throughout the digital marketing ecosystem

Operating globally, we are integrated directly with advertisers, publishers, and platforms including DSPs and ad networks to ensure our solutions are available regardless of where our customers decide to transact.

Long-standing industry partnerships and relationships

Our ability to drive transparency, media quality, and brand safety allows us to be a trusted partner to some of the largest technology and advertising platforms. Our integration partners, such as Facebook, Instagram, Google, YouTube, LinkedIn, Amazon, Microsoft, Pinterest, Snap, Spotify, TikTok, The Trade Desk, Twitter, Xandr, and Yahoo account for the majority of digital advertising budgets and directly incorporate our solutions in their platforms to provide for independent verification, measurement, and optimization. We do not generate material revenue directly from our arrangements with our integration partners. We generate revenue by charging a CPM based on the volume of purchased digital ads that we analyze for our advertiser and publisher customers, including customers that utilize our integration partners for their ad campaigns. Our solutions help advertisers to measure consumer interactions with their brands across platforms. Additionally, we work closely with industry organizations and accreditation groups, including the Audit Bureau of Circulations (the “ABC”), the Global Alliance for Responsible Media (the “GARM”), the Interactive Advertising Bureau (the “IAB”), the MRC, and the Trustworthy Accountability Group (the “TAG”). We are accredited by the ABC for viewability. We are also accredited by the MRC for our proprietary metric, Quality Impressions[®], as well as our Display and Video Total Impressions and Viewable Impression Statistics, Campaign Monitor and Firewall Verification Services, and Sophisticated Invalid Traffic Detection and Filtration. We have also achieved MRC accreditation for impression and viewability measurement and reporting of display and video ads across Meta and Instagram. To extend and maintain our MRC accreditations, we participate in annual audits across our solutions that are conducted by an independent third-party and ensure we align with MRC standards. For 2022, IAS was certified for TAG’s “Certified Against Fraud” and “Brand Safety Certified” Programs.

Market leadership and trusted brand

Advertisers and publishers value our independent verification offerings and our extensive industry thought leadership. We deliver valuable case studies, research, and whitepapers, in addition to participating in industry conferences and hosting proprietary events. In 2023, we expect to continue developing and releasing thought leadership research studies globally. Our annual Media Quality Reports share unique insights extracted from the trillions of data events that we measure globally each month, offering an industry barometer for ad buyers and sellers to benchmark the quality of their campaigns and inventory. All of these thought leadership efforts are amplified and shared through our ongoing demand generation, content marketing, public relations, and social media to help ensure our solutions instill trust and confidence in the media buying process.

Diverse, loyal, and global customer base

We work with many of the largest, global marketers and media companies who want a single verification partner to serve their global needs. From 2012 through 2022, our average customer tenure for our top 100 customers was 7.8 years. We have also grown our customer relationships over time by offering additional products.

Large and growing dataset driving unique customer insights

We collect trillions of data events per month, which provide us with a comprehensive view of digital ad transactions. Our data science capabilities harness unique, real-time insights for our customers to improve the effectiveness of their advertising campaigns. Our platform and architecture are highly scalable and capable of ingesting 100 billion web transactions per day on average with exceptional performance and reliability.

Our Growth Strategy

We believe this is the early stage of our growth and that we are at an inflection point in the advertising industry.

We intend to capitalize on our leading brand and competitive positioning to pursue several long-term growth strategies:

- **Innovate and Develop New Products for Key High-Growth Segments**
 - *Programmatic.* We aim to deliver greater performance on programmatic ad buying via innovative solutions including attention, contextual targeting and brand safety and suitability. These solutions include traditional open-web media buying and select retail-media platforms.
 - *Social.* We aim to develop deeper integrations with social platforms, also known as Walled Gardens, including video-based brand safety and suitability, to deliver continued transparency to our customers.
 - *CTV.* We plan to continue to expand our CTV-specific verification solutions and contextual targeting capabilities to address the fast-growing CTV segment. In 2022, we integrated data from our Publica LLC ("Publica") acquisition to enable new methods of measuring and targeting performant CTV impressions.
 - *Adjacent Product Expansion.* We plan to expand our platforms and integrations to address new verification and measurement needs for our clients.
- **Increase Sales Within Our Existing Customer Base** We continually aim to increase the use of our products among existing customers across more campaigns and impressions. Given our comprehensive product portfolio, we have and believe we can continue to cross-sell additional or new solutions to our existing customers in order to better provide end-to-end coverage to more clients from pre-bid viewability to post-buy verification, fraud prevention, safety, suitability, and targeting.
- **Acquire New Customers and Increase Market Share** We plan to work with the top 500 global advertisers by targeting high-spend verticals and brands with a natural sensitivity for brand safety, brand suitability, and ROAS needs. We believe we can increase our market share by strengthening our relationship with the leading social platforms, enhancing our programmatic solutions, deriving benefit from our broad global position, and leveraging our differentiated data science and market-leading contextual capabilities.
- **Expand Customer Base Internationally** Global marketers are investing in more sophisticated verification strategies, and we believe there is growing demand for our solutions internationally, especially in the Latin America and APAC regions.

Our Solutions

Our leading measurement, optimization, and publisher solutions address ad fraud detection and prevention, viewability and attention, brand safety and suitability, contextual targeting, inventory yield management, and reporting. We are integrated into the digital ad buying and selling process to verify, measure campaign quality and reach, and improve results. We support all buying formats, including direct, programmatic, programmatic guaranteed, and private marketplaces. Our measurement, optimization, and publisher solutions support over 50 languages and span all advertising channels, including display, video, desktop, mobile browser and in-app, CTV, and social.

Our MRC-accredited, proprietary Quality Impressions[®] metric is designed to verify that digital ads are served to a real person rather than a bot, viewable on-screen, and presented in a brand-safe and suitable environment in the correct geography.

Our Context Control solution delivers contextual targeting and brand suitability capabilities. Context Control is powered by our cognitive semantic-based technology, helping advertisers achieve better contextual matching and brand suitability at scale. With over 300 contextual targeting and avoidance segments that can be customized, Context Control helps ensure ads are displayed in the best-suited environments.

Our ad verification solutions serve buyers and sellers. For advertisers, we provide pre-bid programmatic and post-bid verification solutions. For publishers, we provide optimization and verification solutions. Our solutions can measure and verify ad fraud, brand safety, viewability, and geography for all digital ad campaigns by analyzing media in any format - text, audio, and even direct video analysis.

Ad Fraud: Powered by AI and ML technology, our solutions dynamically identify non-human traffic by automatically detecting new threats and uncommon patterns. We also provide malware analysis and reverse engineering to uncover threats. Our three-pillar approach to provide highly accurate ad fraud detection and prevention, includes:

- Machine learning that uses big data to detect hidden, uncommon patterns;
- Rules-based detection that uses automated rule checks to identify invalid traffic sources; and
- The IAS Threat Lab that employs malware analysis and reverse engineering to uncover emerging threats.

Viewability: Our solutions measure whether an ad is viewable based on MRC standards, enabling advertisers to optimize media plans. Our comprehensive viewability capabilities:

- Offer customizable controls based on MRC standards as well as custom brand settings;
- Provide advanced metrics, including time-in-view and frequency performance benchmarks; and
- Deliver cross-channel and cross-device coverage including display and video; desktop, mobile, and CTV; open web and internet platforms; and mobile browser and in-app.

Brand Safety and Suitability: We help marketers manage their brand reputation and avoid issues by ensuring that ads run adjacent to content that meets their specific standards. We are able to scan and score any form of media (text, audio, and video) directly. Our solutions include customized scoring and risk thresholds aligned with GARM framework for brand safety, pre-bid filtering and targeting, and post-bid blocking and monitoring. These tools can be customized to an advertiser's specific risk tolerance with our granular content scoring across high risk standard categories such as adult, alcohol, gambling, hate speech, illegal downloads, illegal drugs, offensive language, and violence. Additionally, we offer advertisers even more flexibility and precise controls to avoid or target certain placements based on over 300 contextual categories, including:

- Topical: specific topics such as sensitive social issues or natural disasters;
- Verticalized: industry-specific coverage such as automotive, finance, and retail; and
- Brand-specific: negative sentiment associated with a specific brand name.

Geography: With a significant and growing number of global customers, we serve many advertisers that target their campaigns to specific geographic regions based on the localized content or language of the ad, or for compliance requirements. With customers currently activating our solutions across 111 countries, we give advertisers confidence in their geographic targeting, ensuring that ads only run in their intended regions.

Reporting: Our platform processes data in real-time to provide advanced analytics and reporting for our customers. Our specialized reporting via IAS Signal provides customers with a clear view of campaign performance including ad fraud, viewability, brand safety and suitability, and geography across all channels and formats. We produce specialized reports, offering in-depth insights and enabling our clients to take action to optimize their media spend.

Advertiser solutions

Our pre-bid and post-bid measurement and verification solutions enable advertisers to measure campaign performance and value across viewability, ad fraud prevention, brand safety and suitability, and contextual targeting for ads on desktop, mobile in-app, social, and CTV platforms. For desktop, we also have the powerful ability to block ads in real-time and protect brands from fraud.

Our pre-bid programmatic solution is directly integrated with DSPs to help optimize ROAS by directing budget to the best available inventory. It operates in the bid-stream in real-time where standard and custom segments are built into the DSP to project which inventory will meet the advertisers brand safety and suitability criteria, be free from fraud, and be most viewable. We can also build in custom segments for targeting, which is increasingly important as the industry moves away from cookies and other forms of identity-based tracking. Our contextual ability is enabled through our deep integrations with all major DSPs. In addition, our targeting and pre-bid solutions extend to the social platforms.

Publisher solutions

Our solutions help hundreds of publishers globally deliver high quality ad inventory that is fraud free, viewable, brand safe and suitable, and geographically targeted. With our Context Control solution, we help publishers classify and package their inventory to showcase quality placements, increase site engagement, drive revenue, and reduce blocking. These tools also help to verify, optimize, and provide better matches between inventory and advertisers, ensuring publishers can maximize revenue and yield potential. Leveraging our data and insights, we also help supply-side platforms ("SSPs"), including ad networks and exchanges, to measure and validate their inventory quality.

In 2021, we acquired Publica, a leading CTV ad-server that provides a single platform to operate an ad supported streaming business. We provide products to streaming publishers and original equipment manufacturers to manage and forecast their ad inventory, maximize yield and provide a best in class TV experience. Key Publica features include ad serving, a Unified Auction, Ad Server and a Server-Side Ad Insertion solution designed for the scale and complexity of the programmatic CTV ecosystem. Publica was awarded Best CTV Sell Side Programmatic Platform at the Digiday Technology Awards in 2021 and Best Video Ad Server at the AdWeek Readers Choice Awards in 2022.

Our Platform

IAS Signal™ is our cloud-based technology platform that enables our customers to maximize their ROAS by verifying their ads. We provide our customers with measurement, insights, and analytics, helping them improve media quality and campaign performance. We block fraudulent and brand unsafe inventory in real-time for open web.

Our platform's scalable and flexible design is central to our success, enabling us to tailor solutions for customers in a cost-effective manner, while delivering leading ad verification capabilities. Our feature-rich and customizable technology encompasses:

Viewability

- Delivering cross-channel coverage including the leading internet platforms and cross-device capability including display and video; desktop, mobile, and CTV; open web and internet platforms; and browser and in-app
- Providing time-in-view and frequency performance benchmarks, enabling advertisers to optimize media plans
- Offering customizable controls ranging from MRC viewability standards to custom brand standards

Ad Fraud

- Employing a three-pillar approach powered by scale and machine learning to provide highly accurate detection and prevention:
 - Machine learning that uses big data to detect hidden, uncommon patterns
 - Rules-based detection that uses automated rule checks to identify invalid traffic sources
 - The IAS Threat Lab that employs malware analysis and reverse engineering to uncover emerging threats

Brand Safety & Suitability

- Deep machine learning and image analysis of text, audio, and video content allows IAS to recognize visual cues on-screen for categorizing into brand safety and suitability, as well as contextual targeting
- Providing brand safety capabilities customizable to an advertiser's specific risk tolerance through granular content scoring across the GARM framework (i.e., adult, alcohol, gambling, hate speech, illegal downloads, illegal drugs, offensive language, and violence), enabling brands to control the context in which their ads appear
- Delivering precise controls to advertisers and the flexibility to avoid or target certain context through a multi-tier solution that offers over 300 categories:
 - Standard control: content related to hate speech, violence, offensive language, and others
 - Topical control: specific topics such as sensitive social issues, pandemics, or natural disasters
 - Verticalized control: industry-specific coverage such as automotive, finance, pharmaceutical, and retail, among others
 - Brand specific control: negative sentiment associated with a specific brand name

Contextual Technologies

- Our contextual technology underlies our distinct brand safety and suitability capabilities.
- We have leading cognitive semantic-based solutions that enable customers to match ads with relevant online content at the page level, powered by a large knowledge graph, this semantic technology can detect sentiment and emotion, through natural language understanding and machine cognition, our technology delivers near-human comprehension of online content, providing context at scale.
- We have image and video-scanning capabilities that can recognize activities, celebrities, logos, and unsafe brand content

Our platform offers comprehensive, real-time signals for measurement and optimization within programmatic advertising. This capability enables advertisers to optimize their programmatic buys pre-bid. Through a DSP, advertisers can use our real-time signals integrated in the transaction stream to optimize for viewable, fraud-free, brand safe and suitable, and contextually relevant content.

Technology operates at the core of our solutions, and innovation is deeply embedded throughout our corporate culture. Across our global footprint, we maintain a presence in key technology hubs across the world, including New York, NY, Chicago, IL, and Pune, India. As of December 31, 2022, approximately 35% of our staff operate within a research and development function. We employ a global data science team to improve our competitive strength in the advertising technology market, enhance our software platforms, and deliver unique insights for our customers.

Our platform is capable of ingesting considerable volumes of unstructured and structured data and leverages our data science expertise to derive unique insights for our customers. As the advertising industry continues to rapidly evolve, we will facilitate the development and integration of new features and solutions into our platform, ensuring we meet or exceed our customers' requirements. Our platform is seamlessly integrated in key areas of the advertising ecosystem, including advertisers, publishers, social platforms such as Facebook, Instagram, Google, YouTube, LinkedIn, Amazon, Microsoft, Pinterest, Snap, Spotify, TikTok, Twitter, Yahoo and demand side and programmatic platforms like The Trade Desk and Xandr. We have designed a feature-rich, intuitive user interface that can be accessed via self-serve or through our various partner interfaces.

We have invested in significant data science capabilities, applying artificial intelligence and machine learning to maintain and enhance the models underlying our solutions. This enables us to better analyze data and provide customers with critical insights. The application of our investments allow us to provide our customers with many benefits, including:

- Global reach, enabling us to provide ad verification internationally, regardless of language and without compromising latency
- Flexible access, allowing our customers to use our solutions through direct and indirect channels due to our key technology integrations throughout the advertising ecosystem
- A seamless user interface that provides advertisers with important tools and analytics
- Integrations with widely deployed third-party technologies, such as Looker, a business intelligence software providing our customers with leading reporting and analytics capabilities
- The ability to deploy our solutions in emerging digital channels. For example, CTV represents a new advertising medium and poses significant challenges for advertisers and publishers. We first addressed this market need with the introduction of our first CTV solution in 2019. Following the acquisition of Publica, we have expanded our IAS Signal reporting platform and launched a new CTV dashboard that delivers highly advanced, live insights on media quality and content classification.

Our Technology

We accelerate innovation through AI and ML. With increasing market demand, we believe advanced verification solutions and other performance metrics to be powered by AI and ML. This shift will benefit all stakeholders in the advertising ecosystem. Brands will be able to better understand the impact of their campaigns on consumers, agencies will be able to launch more effective and cost-efficient strategies, and publishers will be able to monetize their content more efficiently and drive more revenue. Independent digital media quality providers with the most data will be best positioned to win significant market share, because artificial intelligence and machine learning models make better predictions and decisions with higher volumes of data.

We have made significant, recent investments in our technology architecture to better align with our business model and client needs. We collect, analyze, and warehouse a massive amount of data. The advertising industry is seasonal, with peak demand for our solutions occurring towards the end of the calendar year, requiring technology that can scale up or down based on demand. Today, our technology can deliver leading data management capabilities and real-time reporting in a highly flexible and cost-efficient manner.

Features of our technology include:

Scalability: On average, we process 100 billion web transactions per day through our highly scalable, cloud-based technology platform. We use Amazon Web Services ("AWS") public cloud to manage peak volumes driven by seasonality trends in advertising and to scale our global data efforts even faster. Our transition from legacy systems onto AWS has enabled a significantly more cost-effective operation and reduced our dependence on expensive equipment and ongoing capital investment.

Agility: Our flexible architecture enables accelerated delivery of new product solutions for our customers. We can provision a new environment in a new geography to quickly respond to emerging business needs, providing a seamless process for our customers, regardless of where they need our solutions.

Reliability: Our platform's uptime during the year ended December 31, 2022 exceeded 99.9% while delivering frequent updates and enhancements. We offer our clients best-in-class response times, regional support, and around the clock monitoring 365 days a year.

Security: Security starts for our system at the edge of the network. We then build security deeper into the system resulting in interlocking layers that strengthen each other. We use industry best practices, including modern security analysis tools to detect potential risks through automation. This allows us to invest time correctly and efficiently to keep our systems secure. We perform penetration tests and an independent audit every quarter to ensure our systems are secure. We employ third-party experts to further validate our systems' security.

Data Governance: Our data governance solution enables enterprises to comply with a broad range of regulatory requirements, such as the GDPR, CCPA and CPRA. We have developed and affirmed policies and standards for data management and security to help protect the integrity of our data assets.

Advanced Data Science and Analytics: Our cloud-based technology platform processes over 100 billion daily transactions in near real-time, that we leverage to train our advanced high accuracy AI and ML models to provide best in class brand safety, brand suitability, fraud, contextual control and viewability capabilities. We offer a comprehensive solution to classify audio, video, image and text formats using both industry standard, and IAS proprietary taxonomies. We provide actionable insights to our customers in order to optimize their ad spend. We periodically perform competitive analysis, and we have found our Fraud detection models to be at least two times more accurate than our competitors in detecting invalid traffic.

Components of our technology include:

Data Ingestion: We have multiple systems that process large amounts of data that include: a large web crawling infrastructure that fetches hundreds of millions of web pages per day; edge measurement servers that collect thousands of data points per transaction; dedicated integrations with social platforms for data ingestion and exchange; and additional integrations to collect data from other applications such as mobile app stores and CTV stores.

Data Transformation and Modeling: Our cloud-based technology platform processes data in real-time using advanced AI modeling techniques to improve client reporting. Our models are deployed in production, and regularly monitored and updated. They enable the predictions for brand safety and suitability, fraud, and viewability that we deliver to our customers.

Real-Time Scoring: Our edge computing servers package the predictions of the models and serve them in real time, allowing us to score for brand safety, fraud, and viewability across channels and formats, pre-bid and post-bid, and buy-side and sell-side.

Data Reporting: Our modernized data platform is capable of ingesting data in near real-time. We collect and store data in a centralized cloud-based data warehouse capable of numerous computations to provide critical data and analytics to our customers via our reporting platform as well as to our data science team for ML model creation.

Data Analytics: Our product and customer analytics produce specialized reports, offering in-depth insights enabling our clients to optimize their media spend. We offer a comprehensive framework for anomaly detection and application monitoring to ensure our products are always performing at an optimal level.

Our Customers

We have an attractive customer base that is global, diversified, and loyal. The geographic segmentation of revenue from our customers includes 68% in the Americas, 24% EMEA, and 8% in APAC for the year ended December 31, 2022.

Our client base encompasses the largest digital ad spenders globally. In the year ended December 31, 2022, we had 199 large advertising customers, defined as those who spend at least \$200,000 per year. Since 2012, our average customer tenure for our top 100 customers has been 7.8 years. We have also grown our customer relationships over time as they adopt additional products. As of December 31, 2022, we had 2,103 advertising customers. We define “advertising customers” as any advertiser account that spends at least \$3,000 in the applicable trailing twelve month period. We have generated strong historical net revenue retention of advertising customers of 118%, 128% and 108% as of December 31, 2022, 2021, and 2020, respectively. No single customer accounted for more than approximately 5% of our revenues for the years ended December 31, 2022, 2021 and 2020. For a definition of net revenue retention, see Part II, Item 7 “Management’s Discussion and Analysis of Financial Condition and Results of Operations - Key Business Metrics.”

Advertisers can access our solutions through a number of means, including directly through our platform or indirectly through DSPs, agencies, and social platforms. Based on recent trends, advertising customers are increasingly accessing our solutions directly. Our advertising customers are a reflection of our relevance and value across the digital advertising ecosystem.

We serve some of the largest global brands in a variety of industries including consumer packaged goods, finance, technology / telecommunications, automotive, retail / quick service restaurants, and travel & entertainment. We also serve advertisers indirectly through demand side platforms including Amazon, Google’s Display and Video 360, Mediamath, The Trade Desk, Xandr and Yahoo. Additionally, we serve advertisers through global advertising agencies such as Dentsu, IPG, Omnicom, Publicis Groupe, WPP, and Vivendi’s Havas Group.

Our customers also include some of the largest digital publishers. Publica serves over 6 billion ads on CTV every month, delivering quality ad experiences for publishers including, but not limited to, Crunchyroll, E. W. Scripps, Fox, IGN, MLB, Samsung, MLB, Philo and XUMO.

Our Go-To-Market Strategy

Sales and Marketing

We employ a rigorous sales and marketing strategy, which we believe is a competitive differentiator to qualifying opportunities, forecasting pipeline, and achieving financial performance.

We have an established global sales team segmented by geography and we focus our marketing strategy on key regions including the Americas, EMEA, and APAC. We currently address the digital media quality needs of many of the largest global brands such as Coca-Cola, Disney, Nestlé and Verizon.

We have aligned sales and go-to-market strategies to efficiently pursue growth opportunities. As a result, we have created a global accounts team to service large opportunities, a mid-market team to efficiently target this customer segment, and a programmatic channel sales team to scale these revenues. Our client services team is responsible for developing customer relationships, promoting retention and loyalty, and improving overall customer satisfaction.

Our marketing team’s core objectives focus on building upon what we believe is leadership for IAS’s brand recognition and brand favorability within our category. These efforts include driving sales effectiveness through field marketing collateral and a sophisticated demand generation engine with impressive top-of-funnel pipeline growth. We also leverage content marketing, which we believe has established IAS as a genuine thought leader by delivering high-value research, whitepapers, case studies, along with associated press coverage, social media content, and industry and proprietary events. Our marquee Media Quality Reports share insights extracted from the trillions of data events we capture globally, so that ad buyers and sellers can benchmark the quality of their campaigns and inventory.

Customer Operations and Support

We have developed an efficient, full-platform solutions model with a white-glove service to address the needs of large global clients and an end-to-end self-service solution for small-and-medium-sized businesses. Our customer operations and support organization continues to leverage automation to better meet the needs of our customers and add scale. For example, in 2020, we were the first digital media quality company to release an automated tag with Google that reduced a multi-day, labor-intensive process to an activation that can be completed in seconds and we plan to further expand this coverage to other platforms.

Intellectual Property

The protection of our intellectual property is important to our success and our internally developed technology provides the foundation of our proprietary solutions. We rely on intellectual property laws in the U.S. and abroad, as well as confidentiality procedures and contractual restrictions, to protect our intellectual property. We believe our products are difficult to replicate and we will continue to enhance our intellectual property portfolio as we develop new solutions and services for our customers.

As of December 31, 2022, we had 41 issued U.S. patents, 2 allowed patent applications, and 31 pending patent applications. The terms of individual patents extend for varying periods of time, depending upon the date of filing of the patent application, the date of patent issuance, and the legal term of patents in the countries in which they are obtained. Generally, patents issued for applications filed in the U.S. are effective for 20 years from the earliest effective filing date of a non-provisional patent application. The duration of patents outside of the U.S. varies in accordance with provisions of applicable local law, but typically is also 20 years from the earliest effective filing date. However, the actual protection afforded by a patent varies on a country-to-country basis and depends upon many factors, including the type of patent, the scope of its coverage, the availability of legal remedies in a particular country, and the validity and enforceability of the patent.

We also hold or have applied for registration of various service marks, trademarks, and trade names, including “Integral Ad Science,” “IAS,” “Quality Impressions,” and “Total Visibility,” that we believe are important to our business. As of December 31, 2022, we had 11 registered U.S. trademarks, 2 pending U.S. trademark applications, 64 registered international trademarks and 26 pending international trademark applications.

Competition

Our industry is highly competitive with a mix of large, established companies such as DoubleVerify, Inc., and Oracle’s MOAT, as well as various point solution providers such as Human, Inc. We believe that we primarily compete on our comprehensive coverage across channels, devices, and platforms; trusted independent position; established client relationships with many of the leading global brands; global footprint; and breadth and performance of our solutions. In addition, we believe new market competitors would find it difficult to effectively compete given our scale, coverage, breadth of solutions, and strong integration throughout the digital ad ecosystem.

The principal competitive factors in our market include:

- channel coverage;

- verification scope and capabilities;
- breadth of solution features;
- technological and data science capabilities;
- scaled data assets;
- trusted position in the marketplace;
- brand awareness and reputation;
- integrations and partnerships;
- industry accreditations and certifications;
- global coverage;
- reliability, performance, and effectiveness;
- tenure of customer relationships;
- focus on customer success;
- strength of sales and marketing efforts; and
- price of our solutions.

We believe we compete favorably on the basis of these factors.

Seasonality

We experience fluctuations in revenue that coincide with seasonal fluctuations in the digital ad spend of our customers. Most notably, advertisers have historically spent relatively more in the fourth quarter of the calendar year to coincide with the holiday shopping season, and relatively less in the first quarter. We expect seasonality trends to continue, and our ability to manage our resources in anticipation of these trends will affect our operating results. See “Risk Factors—Certain of our operating results and financial metrics may be difficult to accurately predict as a result of seasonality” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations—Key Factors Affecting Our Performance—Seasonality” included elsewhere in this Annual Report.

Culture

IAS was founded in 2009, and since then we have grown to approximately 835 employees with 15 offices in 11 countries as of December 31, 2022. We recognize that attracting, motivating, and retaining passionate talent at all levels is vital to our continued success. By improving employee retention and engagement, we also improve our ability to support our customers and protect the long-term interests of our stakeholders and stockholders. We invest in our employees through high-quality benefits and various health and wellness initiatives, and offer competitive compensation packages, ensuring fairness in internal compensation practices.

We have transformed our business over the past three years by enhancing our talent. We have hired leaders with deep expertise in advertising and building global businesses. Our employee headcount increased by 75 between December 31, 2021, and December 31, 2022. As of December 31, 2022, approximately 35% of our employees operate within a research and development function. We employ a global data science team to improve our competitive strength. We also engage temporary employees and consultants, as needed.

In certain international countries in which we operate, we are subject to, and comply with, local labor law requirements, which automatically make our employees subject to industry-wide collective bargaining agreements. As of December 31, 2022, approximately 9% of our global employees were subject to collective bargaining agreements, all located outside of the U.S. We have not experienced any work stoppages. We believe we have a positive relationship with our employees and endeavor to maintain high levels of engagement.

Our culture is defined by a clear set of six values that guide our business, product development, and brand, while delivering tangible financial and operational benefits for our customers, employees, and shareholders:

1. **We Innovate:** We build cool stuff. Innovation is at the core of what we do. We build products, deliver solutions, and generate ideas that provide valuable functions for our customers.
2. **We Do the Right Thing:** Regardless of whether anyone is looking or not. We act with honesty, transparency, and integrity in working with each other and with our customers.
3. **We Are Accountable:** We hold ourselves and each other accountable for our conduct with teammates and our customers. We take full ownership for our deliverables.
4. **We Are Customer Obsessed:** We put the customer front and center of everything that we do. Our customers' success is our success.
5. **We Are One Team:** We value and rely on each other. We are inclusive. We show up for each other, and we act with empathy and consideration for the benefit of the team. None of us succeeds if our team doesn't succeed. So, we never say, "that's not my job."
6. **We Have a Bias for Action:** Speed matters in business. We move at high velocity and we privilege risk-taking.

We believe these values serve as a foundation for our talent efforts. We vigorously invest in recruitment and retention, especially as we continue to grow our engineering talent across global offices where we are rapidly expanding our research and development capacity. As a company born from digital, big data, and data science, it is in our DNA to innovate and continually enhance our technology and products.

Environmental, social, and governance ("ESG") issues are a growing part of IAS's culture. We are committed to creating an environment where everyone is empowered to bring their authentic selves to work. We execute on our diversity, equity, and inclusion ("DEI") goals through employee resource groups which are open to all Company employees, an employee-led DEI council, non-discrimination policy, and continue to look for ways to improve. IAS is proud of our women-majority Board. Additionally, we value transparency and ethical business practices affecting our stakeholders. Our policy requires all employees complete annual training on topics like anti-corruption, anti-harassment, and other governance topics. We have also implemented organizational, technical, and security practices and policies to protect the privacy of our customers' data and information, including any personal data.

Our History

Our company was founded in 2009 and launched our first media quality benchmarks in 2010. With the continued growth of the digital advertising market, we have continued to innovate through new product developments and partnerships across emerging digital media channels and offerings, including CTV, contextual targeting, programmatic, and social. Key milestones since our company's founding include:

- 2009: Founded as AdSafe Media and opened our headquarters in New York City
- 2010: Introduced our first Media Quality benchmarks for brand safety and viewability
- 2012: Rebranded to Integral Ad Science (IAS)

- 2013: Patented our ad blocking technology; expanded internationally with a new UK presence
- 2014: Acquired Simplytics; continued international expansion with office openings in Germany and Singapore
- 2015: Acquired Veenome; continued international expansion with office openings in Australia, France, and Japan
- 2016: Announced industry-first social platform partnerships with Meta (formerly Facebook) and YouTube; acquired Swarm
- 2017: Launched new partnerships with Twitter and Snapchat; launched mobile in-app fraud and publisher optimization solutions
- 2018: Acquired by Vista Equity Partners
- 2019: Pioneered the first CTV verification solution with Verizon and leading video publishers including Hulu, Roku, and FireTV; acquired ADmantX
- 2020: Launched Context Control and Channel Science products; announced Automated Tag partnership with Google; first company approved for brand safety and brand suitability verification with YouTube
- 2021: Became a publicly traded company through our initial public offering; Acquired Amino Payments; acquired Publica; launched brand safety solution for in-feed video ads on TikTok; acquired Context
- 2022: Integrated Amino Payments into IAS platform; Integrated with Mediaocean platform; Extended verification onto new gaming, audio platforms; expanded advanced contextual targeting to over 50 languages

Government Regulation

We are subject to many U.S. federal and state and foreign laws and regulations that involve matters central to our business, including laws and regulations that involve data privacy and data protection, intellectual property, advertising, marketing, health and safety, competition, consumer protection, taxation, anti-bribery, anti-money laundering and corruption, economic or other trade prohibitions or sanctions, and securities law compliance. Our business may also be affected by the adoption of any new or existing laws or regulations or changes in laws or regulations that adversely affect our business. Many relevant laws and regulations are still evolving and may be interpreted, applied, created or amended in a manner that could harm our business, and new laws and regulations may be enacted, including in connection with the restriction or prohibition of certain content or business activities.

We receive, process, store, use, and share data, some of which contains personal information. We are therefore subject to U.S. federal, state, local and foreign laws and regulations regarding data privacy and the collection, storage, sharing, use, processing, disclosure, and protection of personal information and other data from users, employees or business partners, including the GDPR, CCPA and CPRA and similar comprehensive privacy laws that have been enacted in the states of Connecticut, Colorado, Virginia and Utah, each of which become effective at different times in 2023. These laws expand the rights of individuals to control how their personal data is processed, collected, used and shared to create new regulatory and operational requirements for processing personal data, increase requirements for security and confidentiality, and provide for significant penalties for non-compliance. There are also a number of legislative proposals pending before the U.S. Congress, various state legislatures and foreign governments concerning content regulation and data protection that could affect us. These and other laws and regulations that may be enacted, or new interpretation of existing laws and regulations, may require us to modify our data processing practices and policies and to incur substantial costs in order to comply.

The foregoing description does not include an exhaustive list of the laws and regulations governing or impacting our business. See the discussion contained in the Item 1A. "Risk Factors" for information regarding how actions by regulatory authorities or changes in legislation and regulation in the jurisdictions in which we operate may have a material adverse effect on our business.

Available Information

We make available, free of charge through our website, www.investors.integralads.com, our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, and amendments to those reports, filed or furnished pursuant to Sections 13(a) or Section 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), as well as proxy statements, as soon as reasonably practicable after they have been electronically filed with, or furnished to, the SEC.

The SEC also maintains a website (www.sec.gov) that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC.

This Annual Report on Form 10-K includes our trademarks and service marks such as "IAS," "Integral Ad Science," "IAS Signal," "Quality Impressions," and "Total Visibility," which are protected under applicable intellectual property laws and are the property of us or our subsidiaries. This Annual Report on Form 10-K also contains trademarks, service marks, trade names and copyrights of other companies, such as "AWS" and "Oracle's MOAT," which are the property of their respective owners. Solely for convenience, trademarks and trade names referred to in this Annual Report on Form 10-K may appear without the ® or ™ symbols, but such references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensor to these trademarks and trade names.

Implications of Being an Emerging Growth Company

We qualify as an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012 (the "JOBS Act"). We will remain an emerging growth company until the earliest of (1) December 31, 2026, (2) the last day of the fiscal year in which we have total annual gross revenue of at least \$1.235 billion, (3) the last day of the fiscal year in which we become a large accelerated filer (this means the market value of common stock that is held by non-affiliates exceeds \$700.0 million as of the end of the second quarter of that fiscal year), or (4) the date on which we have issued more than \$1.0 billion in non-convertible debt securities during the prior three-year period.

An emerging growth company may take advantage of reduced reporting requirements that are otherwise applicable to public companies. These provisions include, but are not limited to:

- a. not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, as amended, or the Sarbanes-Oxley Act;
- b. reduced disclosure obligations regarding executive compensation in periodic reports, proxy statements and registration statements; and
- c. exemptions from the requirements of holding a non-binding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved.

We have elected to take advantage of certain of the reduced disclosure obligations regarding financial statements in this Annual Report on Form 10-K and expect to elect to take advantage of other reduced burdens in future filings. As a result, the information that we provide to our shareholders may be different than you might receive from other public reporting companies in which you hold equity interests.

The JOBS Act also permits an emerging growth company like us to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies. We have elected to opt-in to this extended transition period for complying with new or revised accounting standards and, therefore, we will not be subject to the same new or revised accounting standards as other public companies that comply with such new or revised accounting standards on a non-delayed basis.

Item 1A. Risk Factors

Risk Factors Summary

There are a number of risks related to global economic conditions, our business, our indebtedness, and our common stock. You should carefully consider all the information presented in this section entitled “Risk Factors” in this Annual Report on Form 10-K. Some of the principal risks affecting our business include the following:

- factors that affect the amount of advertising spending, such as economic downturns and marketability, instability in geopolitical or market conditions generally, and any changes in tax treatment of advertising expenses, can make it difficult to predict our revenue and could adversely affect our business, results of operations, and financial condition;
- public health outbreaks, epidemics or pandemics, such as the COVID-19 pandemic, the measures taken to contain the spread of such outbreaks and the impact of such outbreaks on the global economy could harm our business, results of operations, and financial condition;
- if we fail to innovate, maintain or achieve industry accreditation standards, make the right investment decisions in our offerings and platform, including responding to technological changes or upgrading our technology systems, and expand into new channels, we may not attract new customers, retain customers, or achieve customer acceptance of our products, and our business, revenue, and results of operations may decline;
- the market in which we participate is intensely competitive, both from established and new companies, and we may not be able to compete successfully with our current or future competitors;
- we rely on integrations with advertising platforms, demand-side platforms (“DSPs”), proprietary platforms, and ad servers, over which we exercise little control and loss of integration, through technology issues, regulations affecting our partners or loss of partners would materially affect our business;
- our international expansion may expose us to additional risks and requires increased expenditures, which imposes additional risks and compliance imperatives, and failure to successfully execute our international plans will adversely affect our growth and operating results;
- if we are not able to maintain and enhance our brand, our business, financial condition, and operating results may be adversely affected;
- we are subject to payment-related risks and, if our customers do not pay or dispute their invoices, our business, financial condition, and operating results may be adversely affected;
- we have revenue share arrangements with certain DSPs and any material changes to those sharing arrangements could affect our costs;
- if we are unable to remain competitive, retain key clients or lose large clients, our business could be adversely affected;
- certain operating results and financial metrics may be difficult to accurately predict due to seasonality;

- our revenue model depends on high impression volumes, the growth of which may not be sustained, and our short operating history makes it difficult to evaluate our future prospects;
- the market for buying digital advertising verification solutions is relatively new and evolving. Our estimates of market opportunity and forecasts of market growth included in this Annual Report may prove to be inaccurate;
- if the non-proprietary technology, software, products and services that we use are unavailable, become subject to future license or other terms we cannot agree to, or do not perform as we expect, our business, financial condition, and results of operations could be harmed;
- we may be sued by third parties for alleged infringement, misappropriation or other violation of their proprietary rights, which would result in additional expense and potential damages;
- we may be unable to obtain, maintain, protect, or enforce intellectual property and proprietary rights that are important to our business, which could enable others to copy or use aspects of our technology without compensating us, thereby eroding our competitive advantages and harming our business;
- failures in the systems and infrastructure supporting our solutions and operations could significantly disrupt our operations, and operational, technical, and performance issues with our platform, whether real or perceived may adversely affect our business, reputation, financial condition, and operating results;
- if unauthorized access is obtained to user, customer or inventory, and third-party provider data, or our platform is compromised, our services may be disrupted or perceived as insecure, and as a result, we may lose existing customers or fail to attract new customers, and we may incur significant reputational harm and legal and financial liabilities;
- concerns regarding data privacy and security relating to our industry’s technology and practices, and perceived failure to comply with laws and industry self-regulation, could damage our reputation and deter current and potential customers from using our products and services;
- we are subject to taxation in multiple jurisdictions. Any adverse development in the tax laws of any of these jurisdictions, any disagreement with our tax positions or change in our annual effective income tax rate could have a material and adverse effect on our business, financial condition or results of operations;
- our corporate culture has contributed to our success and, if we are unable to maintain it, our business, financial condition, and results of operations could be harmed and the quality of our platform and solutions may suffer;
- our business is subject to the risks of earthquakes, fires, floods, and other natural catastrophic events and to interruption by man-made problems such as terrorism, computer viruses, or social disruption impacting advertising spending; and
- the other factors below in this section “Risk Factors.”

These and other risks are more fully described below. If any of these risks actually occurs, our business, financial condition, results of operations, cash flows, and prospects could be materially and adversely affected. As a result, you could lose all or part of your investment in our common stock.

Risks Related to Global Economic Conditions

Our revenue and results of operations are highly dependent on the overall demand for advertising. Macroeconomic and geopolitical factors that affect the amount of advertising spending can make it difficult to predict our revenue and could adversely affect our business, results of operations, and financial condition.

Our business depends on the overall demand for advertising and on the economic health of our current and prospective advertiser and publisher customers. Challenging economic conditions may cause our current and prospective customers to consider purchasing fewer solutions than originally anticipated, may impair their ability to increase spending and accurately forecast and plan for future marketing activities, and may impair their ability to pay for products and services they have purchased.

Global economies, including the U.S. and Europe, are being affected by record levels of inflation, elevated interest rates, supply chain challenges that have affected the distribution of our current and prospective advertisers' products, labor shortages, volatility in credit, equity and foreign exchange markets, and growing risk of recession. These conditions coupled with geopolitical instability, including as a result of the war in Ukraine and tensions between China and the U.S., have resulted and may continue to result in restricted credit, poor liquidity, reduced corporate profitability, bankruptcies, and overall uncertainty with respect to the economy. While we have not had a material increase in customers' cancellations, requests for more favorable contractual terms, or concessions, and we have not experienced a significant deterioration in the collectability of our receivables or a material negative impact from our vendors and third-party service providers to date, our results of operations reflect current macroeconomic conditions. Our operating expenses are denominated in the currencies of the countries in which our operations are located, and our consolidated results of operations and cash flows are, therefore, subject to fluctuations due to changes in foreign currency exchange rates. During the year ended December 31, 2022, as a result of increases to the federal funds rate, the U.S. dollar significantly strengthened against the Euro, and the British pound sterling, resulting in a \$4.7 million foreign exchange loss, net. The U.S. dollar may continue to strengthen against these foreign currencies if the Federal Reserve further raises the federal funds rate, which may result in downstream impacts to global exchange rates and further adverse impacts to our reported results. Rising interest rates have also resulted in an increase in our interest rate to 6.2% on December 31, 2022 compared to 2.2% at December 31, 2021. Further interest rate increases could further impact our cost of debt. To address the current macroeconomic environment, we conducted a planned reduction in workforce in December 2022 to better align resources, increase operational efficiency and improve productivity. If macroeconomic conditions deteriorate further, our results of operations could be materially adversely affected.

In addition, further deterioration in economic conditions in the U.S., Europe and other key markets for our platform could impact our customers' ability or willingness to utilize our platform, require advertisers to reposition messaging, delay prospective customers' purchasing decisions, affect renewal rates, and cause reductions in overall advertising spending budgets, any of which could harm our operating results. Reductions in overall advertising spend as a result of these factors or the inability of advertisers to meet their commitments could make it difficult to predict our revenue and could adversely affect our business, results of operations, and financial condition.

Public health outbreaks, epidemics or pandemics, such as the COVID-19 pandemic, the measures taken to contain the spread of such outbreaks and the impact of such outbreaks on the global economy could harm our business, results of operations, and financial condition.

Public health outbreaks, epidemics or pandemics, such as the COVID-19 pandemic, could materially and adversely impact our business. The COVID-19 pandemic resulted in numerous countries, including in Europe, Asia and the United States, declaring national emergencies. The outbreak and the corresponding public health measures undertaken by governments, businesses and individuals to contain the spread of COVID-19, included orders to shelter-in-place and restrictions on travel and permitted business operations. While most of those restrictions have been relaxed, an increase in COVID-19 cases or variations thereof may result in the reinstatement of such restrictive measures. Even though our business and financial results were not materially adversely impacted during the height of the COVID-19 pandemic, concern over the impact of COVID-19 impacted the behavior of end consumers and the operations of our respective vendors and suppliers in 2020 and 2021, and resulted, and may continue to result in delays with respect to the purchasing decisions of certain prospective customers and/or cause them to consider purchasing fewer solutions than originally anticipated.

Risks Relating to Our Business and Strategy

If we fail to innovate and make the right investment decisions in our offerings and platform, including responding to technological changes or upgrading our technology systems, we may not attract new customers and retain customers and our revenue and results of operations may decline.

Our industry is subject to rapid and frequent changes in technology, evolving customer needs, and the frequent introduction by our competitors of new and enhanced offerings. We must constantly make investment decisions regarding offerings and technology to meet customer demands and evolving industry standards and our success depends on our ability to adapt and innovate. Examples of innovation and technological changes that we have had to manage include, for example: (i) developing solutions for measuring in a mobile and in-app context as consumers and advertisers are shifted to these environments, (ii) developing the necessary integrations and data ingestion methods to provide verification services for Walled Gardens as this channel became a greater portion of digital ad spend, and (iii) innovating and investing into multimedia contextual capabilities to complement historical methods such as keyword based solutions. We may make wrong decisions regarding these investments. If new or existing competitors introduce new products and services using new technologies or if new industry standards and practices emerge, we may lose customers or customers may decrease their use of our platform. New customer demands, superior competitive offerings, or new industry standards could require us to make unanticipated and costly changes to our platform or business model. If we do not have sufficient capital to make these costly changes or to prioritize the research and development required to keep pace with the competition, our offerings may become obsolete and may cause a material adverse effect to our business, results of operations, and financial condition.

Even if we are able to meet the demands for these unanticipated and costly changes to our platform or business model, the impact of such rapid innovation could cause issues with integrating our new offerings and platform into our proprietary platforms' solutions within a reasonable timeframe. We cannot assure you that our updated solutions will be compatible or accepted by our integration partners. Any delay or failure in integration may cause missing data or delays in data analysis, which could cause our customers to become dissatisfied with our services, cause a loss of customers and may adversely impact our business, results of operations, and financial condition.

If we fail to adapt to our rapidly changing industry or to evolving customer needs as priorities shift or keep pace with rapid technological developments, the solutions we deliver may become less marketable and less competitive. If we are unable to properly identify and prioritize appropriate solution development projects or if we fail to develop and effectively market new solutions or enhance existing solutions to address the needs of existing and new customers, we may not be able to achieve or maintain adequate market acceptance and penetration of our solutions, and our solutions may become less competitive or obsolete, demand for our platform could decrease and our business, financial condition, and operating results may be adversely affected.

If our existing and future product offerings fail to maintain or achieve industry accreditation standards, customer acceptance of our products may decrease which could have a material adverse effect on our business and results of operations.

The market for our products is characterized by changes in protocols and evolving industry standards. Industry associations such as the Advertising Research Foundation, the Council of American Survey Research Organizations, the IAB, the TAG, the GARM, which is comprised of advertisers, agencies, media companies, platforms and industry organizations, the MRC, a voluntary trade organization, and internationally-based industry associations have independently initiated efforts to either review market research and rating methodologies across the media that we measure or develop minimum standards for such research and rating. Accreditation is only granted on a per metric basis rather than on a product or solution. In order to attain accreditation for new metrics tied to new solutions, the processes supporting new solutions must be reviewed to ensure that they are accurately processing data used to create the metrics. The process of obtaining such accreditations is costly, lengthy and there are often significant delays in achieving such accreditation. As a result, even if we are able to obtain such accreditations for our product offerings, we typically incur significant costs in obtaining such accreditations and the process of obtaining such accreditations delays our ability to market such product offerings as accredited by one or more industry associations. Moreover, metrics must be accredited before they will achieve widespread acceptance by the industry and our customers.

Additionally, these accreditation organizations could determine that there is a uniform standard that must be achieved by companies seeking accreditation, which could have the effect of limiting the methods of operations among competitors and could lead to commoditization of our industry and harm our ability to effectively compete by inhibiting our ability to differentiate our services from those of our competitors.

Failure to achieve accreditation for any of our product offerings, delays in obtaining such accreditations, or adverse audit findings may negatively impact the market acceptance of our products and could cause us to lose customers and could delay acceptance of new product offerings by the industry and our customers. Meanwhile, successful accreditation or audits may lead to costly changes to our procedures and methodologies and may have an adverse effect on our business and results of operations.

If we are unable to provide digital or cross-platform analytics, or if our analytics are incomplete, our ability to maintain and grow our business may be harmed.

Our business provides buy-side post-buy verification and programmatic pre-bid solutions; on the sell-side, we provide verification and optimization solutions for publisher and media companies that enable the measurement and targeting of inventory against ad viewability, ad fraud, invalid traffic, brand safety, and suitability metrics across platforms, such as display, video, desktop, mobile, CTV, open web, browser, in-app, and more.

If we are unable to gain or maintain access to information necessary to measure campaign performance, if we are unable to utilize such information in the development or enhancement of our programmatic pre-bid solutions or of our data sets and models, or if we are unable to do any of the foregoing on commercially reasonable terms, our ability to meet our customers' demands and our business and financial performance may be harmed. Furthermore, even if we do have access to complete data covering channels such as display, video, CTV, mobile and desktop, if we have insufficient technology, encounter challenges in our methodological approaches or have inadequate source materials to parse the information across such channels or to do so in a cost-effective manner, our products may be inferior to other offerings, and we may be unable to meet our customers' demands. In such an event, our business and financial performance may be harmed.

In particular, rather than being able to collect data directly from our technology (e.g., ad tags, pixels and SDKs) like we do on the open web, our ability to access data necessary for the measurement of campaigns with proprietary platforms, such as Facebook and YouTube among others, depends on our continued access to their proprietary platforms or certain segments of their proprietary platforms for research or measurement purposes. We rely on Facebook, and YouTube to provide us with access to mutually agreed upon data elements and signals for purposes of enabling the measurement and targeting of Facebook and YouTube inventory on behalf of advertisers. These proprietary platforms could limit our access to their data as a result of technological changes or changes to their access terms. Moreover, while our contracts with these proprietary platforms generally renew automatically, many of our contracts with these proprietary platforms allow the platform to terminate their agreements with us without cause and subject to short notice periods. Any such terminations would significantly limit our ability to access data that is necessary for the measurement of our advertiser customers' respective campaigns within the relevant proprietary platforms. There can be no assurance that such proprietary platforms will not limit or terminate our access to their data in the future, whether for competitive or other reasons. Moreover, as display, video, CTV, mobile, and desktop viewing continue to proliferate, gaining and maintaining cost-effective access to display, video, CTV, mobile and desktop data is already and will continue to become increasingly critical, and we could face difficulty in accessing data relating to those platforms.

If we are unable to maintain our access to these proprietary platforms, establish access with new platforms, or otherwise acquire or access data that we need for research or measurement purposes effectively and efficiently, or if the cost of data acquisition increases, our business, financial condition, we may be unable to provide certain digital or cross-platform analytic and our results of operations could be materially and adversely affected.

We rely on integrations with advertising platforms, DSPs, proprietary platforms and ad servers, over which we exercise little control.

Our business depends on our ability to integrate our solutions with a variety of third-party advertising platforms, DSPs, proprietary platforms and ad services. We have formed partnerships with these platforms to integrate our technology with their software and product offerings, allowing our customers to utilize our solutions wherever they purchase or place an ad. We rely on integration with Google in order to provide automated tag wrapping functionalities. Google may deploy code, adjust its terms, or change operations that may impact joint solutions and combined functionality, which would have a significant effect on our ability to offer our products. Some of these integration partners have significant market share in the segment in which they operate. To date, we have relied on written contracts to govern our relationships with these partners. However, certain providers may choose to terminate these contracts without cause and with short notice periods. Many of these agreements are short term with automatic renewal provisions, and there can be no assurances that such providers will agree to renew their agreements with us. Moreover, such providers may choose to stop integrating with our solutions and may unilaterally stop providing us with data necessary to our business if they acquire a competitor which provides services similar to ours or if they begin to deliver services similar to ours on their own. For example, regarding our data measurements services, a provider such as YouTube has established a formal measurement program through which participants need to be approved by Google in order to participate. YouTube could adversely impact our operations in the future by limiting our data access from their platform altogether, restricting access to data to only a select few vendors or taking away our certification within its measurement program. We cannot assure you that (i) our existing integration partners will continue to, or that potential new integration partners will agree to, integrate our solutions (ii) our customers will continue to use our solutions available on these digital media platforms or (iii) our integration partners will not develop and market products that compete with us in the future. Such integrations may not be replaceable, and so loss of any such integrations could materially impact our business and our results of operations and we may lose customers. For the years ended December 31, 2022, 2021 and 2020, 47%, 42% and 36%, respectively, of our total revenue from customers was facilitated by our partnerships with DSPs, of which the largest DSP partnership accounted for 22%, 17% and 17% of our total revenue from customers for the years ended December 31, 2022, 2021, and 2020, respectively.

Even if our partners continue their agreements and partnerships with us, we continuously are required to update and enhance our solutions to adapt to changes in software, networking, browser, and database technologies. We may be forced to make changes based on a unilateral change that an integration partner makes to its platform in order to integrate our products or to have the integration operate in the same manner that it did prior to the integration partner's change. The integration partner's change may cause a malfunction in the integration and cause a break in services. We cannot assure you that our updated solutions will be compatible or accepted by our integration partners.

Additionally, some of our partners are subject to regulatory actions, which, if successful, could cause our partners to be broken into separate companies. The U.S. federal and state governments as well as the European Union ("E.U.") and other foreign governments and regulatory agencies have initiated lawsuits and investigations against Google and Meta related to certain alleged anticompetitive business practices and conduct in the digital advertising and social media industries and we cannot be certain as to how such lawsuits and investigations might affect Google or Meta or otherwise affect the digital advertising industry. If our partners change their business as a result of these lawsuits or investigations, or are separated into separate companies, it could have a material effect on our ability to gather data and there can be no assurance that all of the separated companies will continue to be our partner, each of which could materially affect our business, results of operations, and revenues. In addition, from time to time, we have been subject to antitrust government investigations in various jurisdictions. To date, we have not suffered a material adverse effect from these investigations. However, there can be no assurance that we will not suffer material adverse effects in the future.

Tensions between the United States and China may result in certain China-based companies, including ByteDance, Ltd., TikTok's parent company, being banned from operating in the United States entirely. There have been recent media reports related to deliberations within the U.S. government regarding potentially limiting or restricting China-based companies such as TikTok from accessing U.S. capital markets. If any legislation were to be enacted or any regulations were to be adopted along these lines, our partnership with TikTok may be adversely impacted.

Our business and revenues could also be affected by social issues or disruptions. If there is public disapproval or boycotting of a specific platform, such as Meta or other platforms, our ability to optimize ad placement or to forecast usage may be impacted based on unforeseen trends or events. Additionally, how we categorize specific sites in the course of our normal business operations could expose us to risks from publishers or advertisers who could disagree with our categorizations and incur negative ramifications if they believe their ads were monetarily contributing to websites that contribute to the spread of hate speech, disinformation, white supremacist activity, voter suppression efforts or other similar activity. If publishers or advertisers believe our categorizations are faulty or unreliable, they may pull back on advertising, which could affect our business, revenues, and results of operations.

In addition, we rely on our DSP partners to report to us on the usage of our pre-bid and contextual targeting solutions on their platforms, as well as revenue generated on their platforms. The timing of these reports is fixed per DSP, and variations impact our ability to derive insights, particularly granular insights into usage, and potentially impacts our ability to accurately forecast. Any financial or other difficulties our integration partners face may negatively impact our business, as a significant portion of our revenue depends on customers using our solutions on these digital media platforms, and we are unable to predict the nature and extent of any such impact. We exercise very little control over our integration partners, which increases our (i) vulnerability to problems with the services they provide and (ii) reliance upon them for accurate data and revenue reporting. If our proprietary platform partners intentionally or unintentionally cause data delays or if data is missing, our reporting and ability to deliver our products and services would be adversely impacted and we would be unable to accurately forecast our revenue due to our inability to see the volume of impressions. Any errors, failures, interruptions, or delays experienced in connection with our integration partners could adversely affect our business, reputation, forecasts, and financial condition.

The market in which we participate is intensely competitive, both from established and new companies, and we may not be able to compete successfully with our current or future competitors.

We operate in a highly competitive and rapidly changing industry with barriers to entry being increasingly lowered and single-solution providers entering the market and competing with certain aspects of our solutions. We expect competition to persist and intensify in the future, which could harm our ability to increase revenue and generate profits. The market for measurement, data analytics, and verification of digital advertising is competitive and evolving rapidly as market participants develop and offer new products and services, which could lead to commoditization and harm our ability to effectively compete in our industry.

We compete with established verification and measurement companies such as DoubleVerify and Oracle's MOAT, and point solution (e.g., fraud) providers such as Human, Inc. These competitors may be able to, among other things, provide accurate and reliable data insights on brand suitability and existence of ad fraud, innovate, and adapt product offerings to emerging digital media technologies, offer solutions that meet changing customer needs, negotiate more favorable revenue share agreements with DSPs, and otherwise execute on their growth strategies more effectively than we can.

We may also face competition from new companies entering the market, including large established companies and companies that we do not yet know about or do not yet exist. These companies may have massive resources to acquire or internally develop solutions that compete directly with ours. As we introduce new solutions, as our existing solutions evolve and as other companies introduce new products and solutions, we are likely to face additional competition. If existing or new companies develop, market, or resell competitive high-value products or services or if they acquire one of our existing competitors or form a strategic alliance with one of our competitors, our ability to compete effectively could be significantly compromised and our results of operations could be harmed. If a competitor such as DoubleVerify were to be acquired by one of the larger proprietary platforms, the proprietary platforms that we rely upon to provide our services may limit our access to their platforms, refuse to integrate our products or, regarding our data measurements services, a provider such as YouTube could materially impact our operations by limiting our data access from their platform altogether. Relatedly, if the larger proprietary platforms that we rely upon for significant portions of our business, such as YouTube, were to develop and begin providing services similar to ours in-house, they may terminate our contracts and restrict our access to their data, refuse to allow us to integrate with their products, and generally adversely affect our operations, revenues, and ability to conduct our operations. As of December 31, 2022, we had contracts with DSPs and proprietary platforms that would individually or in the aggregate materially affect our revenue and results of operations if the contracts were terminated.

Our potential competitors may have significantly more financial, technical, marketing and other resources than we have, larger intellectual property portfolios and broader global distribution and presence, which may allow them to devote greater resources to the development, promotion, sale and support of their products and services. They may also have more extensive relationships than we have and may be better positioned to execute on product introductions or integration with proprietary platforms. Some of our competitors, such as Nielsen, may have a longer operating history and greater name recognition. As a result, these competitors may be better able to respond quickly to new technologies, develop deeper relationships, or offer competitive services at lower prices. Any of these developments would make it more difficult for us to sell our platform and could result in increased pricing pressure, increased sales and marketing expense or the loss of market share, which could cause us to decrease the prices we charge or accept less favorable terms for our solutions in order to remain competitive. If we are unable to compete successfully against our current and future competitors, we may not be able to retain and/or increase sales to existing customers and acquire new customers, and our business, financial condition, and results of operations could be adversely affected.

We may be exposed to risk as a result of our relationships with third parties, and we may not be able to recover such losses from them.

We rely on integrations with advertising platforms, DSPs, proprietary platforms and ad servers, over which we exercise very little control. Issues surrounding our integrations may arise as a result of our or our partners' systems. For example, a significant reduction in the volume of data received from an integration partner could prevent us from effectively providing services to our customers. Similarly, in the context of an ad server integration, ads may not be properly delivered to their intended webpages or applications due to an integration issue. These delays in data, ad delivery failures or the ability to integrate our products to partner platforms could impact customer satisfaction and prevent us from providing the services we are contractually obligated to provide. In addition, such delays and failures could delay our ability to invoice our clients, and clients may refuse to pay invoices or may otherwise bring claims against us or stop using our solutions. While we generally seek to disclaim liability for the acts of our partners within our customer agreements, there can be no assurances that such provisions will be effective. Our ability to recover from our integration partners is often limited, and if our customers seek to recover from us, we may not be able to recover from our partners. We also cannot be sure that any existing general liability insurance coverage would apply in these circumstances, continue to be available on acceptable terms, or will be available in sufficient amounts to cover one or more large claims, or that the insurer will not deny coverage as to any future claim. As a result, any such delays or failures, even if caused by an integration partner, could lead to losses, claims and liability for us, and could lead to a loss of customers and damage to our reputation, any of which could have a material adverse effect on our business, financial condition and results of operations.

Our international expansion may expose us to additional risks.

While our historical operations have been focused in the United States, we have expanded our operations internationally in recent years to certain European and Asian jurisdictions in order to increase our customer base, infrastructure, offices, and employee count, among other things. We expect international expansion to continue in the near term. Our current or future international expansion may expose us to additional risks, including:

- challenges associated with relying on local partners in markets that are not as familiar to us, including local joint venture or strategic partners to help us establish our business;
- the burden of compliance with additional regulations and government authorities in a highly regulated industry;
- potentially adverse tax consequences from operating in multiple jurisdictions;
- complexities and difficulties in obtaining protection and enforcing our intellectual property in multiple jurisdictions;
- increased demands on our management's time and attention to deal with potentially unique issues arising from local circumstances; and
- general economic and political conditions internationally.

If we are not able to maintain and enhance our brand, our business, financial condition and operating results may be adversely affected.

We believe that developing and maintaining awareness of our brand in a cost-effective manner is critical to achieving widespread acceptance of our existing solutions and future solutions and is an important element in maintaining existing and attracting new customers and partners. We believe that our success depends on advertisers and publishers valuing our trusted, authoritative, and independent position in the ecosystem, which instills trust and confidence in the media buying process for our customers. Furthermore, we believe that the importance of brand recognition will increase as competition in our market increases. Our brand may be damaged if we are unable to deliver reliable, accurate services due to any delay or failure in integration with our partners, which may cause missing data or delays in data analysis. Additionally, any disruption in our services, whether caused by technological failures or otherwise, may adversely affect our brand, even if such disruption or failure was caused by a third-party service provider. These integration failures or interruptions in our services, whether caused by us, our partners or third-party service providers, could cause our customers to become dissatisfied with our services and could cause damage to our reputation and our brand, which may have a material adverse effect on our business and operating results.

Additionally, successful promotion of our brand will depend largely on the effectiveness of our marketing efforts and on our ability to deliver valuable solutions for our customers, including advertisers and publishers. In the past, our efforts to build our brand have involved significant expense. Brand promotion activities may not yield increased revenue, and even if they do, any increased revenue may not offset the corresponding expenses that we incurred in building our brand. If we fail to successfully promote and maintain our brand or incur substantial expenses in an unsuccessful attempt to promote and maintain our brand, we may fail to attract enough new customers or partners or retain our existing customers or partners and our business could suffer.

Our future success will depend in part on our ability to expand into new channels.

We deliver our solutions through various digital media channels, including display, video, social, CTV, mobile, and desktop. In the future, we may decide to broaden the spectrum of our channels further if we believe that doing so would significantly increase the value we can offer to customers. We believe a broader platform delivering our solutions through complementary channels can enhance our value proposition for existing and prospective customers. However, any future attempts to enter new channels, such as CTV, may not be successful and could have a significant impact on our results of operations, revenues, and future offerings.

Our success in expanding into any additional channels will depend on various factors, including our ability to:

- identify additional channels where our solutions could perform;
- adapt our solutions to additional channels and effectively market them for such additional digital marketing channels to our existing and prospective customers;
- integrate newly developed or acquired digital marketing channels into our pricing and measurement models, with a clear and measurable performance attribution mechanism that works across all channels, and in a manner that is consistent with our privacy standards;
- accumulate sufficient data sets relevant for those digital marketing channels to ensure that our solutions have sufficient quantity and quality of information to measure relevant advertisements through those additional advertising channels;
- achieve customer performance levels through the new channels that are similar to those delivered through our existing channels, and in any case that are not dilutive to the overall customer performance;
- identify and establish acceptable business arrangements with partners;

- maintain our gross margin at a consistent level upon entering one or more additional marketing channels;
- compete with new market participants active in these additional channels; and
- hire and retain key personnel with relevant technology and product expertise to lead the integration of additional channels onto our platform, and sales and operations teams to sell and integrate additional channels.

If we are unable to successfully adapt our solutions to additional channels and effectively market such offerings to our existing and prospective customers, or if we are unable to maintain our pricing and measurement models in these additional channels, we may not be able to achieve our growth or business objectives. Additionally, if the integrations and partnerships that we rely on to provide these current and future channels, such as proprietary platforms, are not replaced, when necessary, we could suffer losses in revenues and changes in results of operations that could have a material impact.

Furthermore, if our channel mix changes due to a shift in client demand, such as customers shifting their spending more quickly or more extensively than expected to channels in which we have relatively less functionality, features, or inventory, demand for our platform could decrease, we may be required to develop new technology to effectively measure to remain competitive (e.g., social video) or may be unable to develop technology to measure and our business, financial condition, and results of operations could be adversely affected.

We have a history of net losses and may not achieve or sustain profitability in the future, particularly if our revenue growth rate may decline.

Even though for the year ended December 31, 2022, we experienced net income of \$15.4 million, we experienced net losses of \$52.4 million and \$32.4 million for the years ended December 31, 2021 and 2020, respectively. As of December 31, 2022, our accumulated earnings were \$0.8 million. We cannot assure you that we will achieve net income profitability in future periods.

Our revenue growth rate may decline in the future because of a variety of factors, including increased competition, the maturation of our business and our ability to convert customers from a variable model to a flat fee model. You should not consider our historical revenue growth or operating expenses as indicative of our future performance. If our revenue growth rate declines or our operating expenses exceed our expectations, our financial performance will be adversely affected. We will need to generate and sustain increased revenue levels in future periods in order to maintain or increase our level of profitability.

Additionally, we also expect our costs to increase in future periods, which could negatively affect our future results of operations. We expect to continue to expend substantial financial and other resources on acquiring and retaining customers, expanding and maintaining internet platform integrations, our technology infrastructure, research and development, expansion into new markets, marketing, and general administration. These investments may not result in increased revenue or growth in our business. If we cannot successfully grow our revenue at a rate that exceeds the increases in costs associated with our business, we will not be able to maintain profitability or generate positive cash flow on a sustained basis.

We are subject to payment-related risks and, if our customers do not pay or dispute their invoices, our business, financial condition and operating results may be adversely affected.

We have a large and diverse customer base. Our customers may experience financial difficulty, file for bankruptcy protection or cease operations, especially during times of economic uncertainty or recession. Consequently, we may be involved in disputes with customers over the operation of our platform, the terms of our agreements or our billings for purchases made by them through our platform. If we are unable to collect or make adjustments to bills to customers, we could incur write-offs for bad debt, which could have a material adverse effect on our results of operations for the periods in which the write-offs occur. In the future, bad debt may exceed reserves for such contingencies and our bad debt exposure may increase over time. Any increase in write-offs for bad debt could have a materially negative effect on our business, financial condition, and operating results. In the event we are not paid by our customers on time or at all, our results of operations and financial condition would be adversely impacted. Further, growth and increased competitive pressure in the global digital advertising ecosystem is causing customers to demand lower costs, more services and more rapid innovation of products, resulting in overall increased focus by all industry participants on pricing, transparency, and cash and collection cycles. Some customers have experienced financial pressures that have motivated them to slow the timing of their payments to us. If customers slow their payments to us or our cash collections are significantly diminished as a result of these dynamics, our revenue and/or cash flow could be adversely affected and we may need to use working capital to fund our accounts payable pending collection from the customers. In such circumstances, we may need to obtain additional financing to fund our day-to-day working capital requirements, which may not be available on favorable terms, or at all.

We have revenue share agreements with certain DSPs and any material changes to those sharing arrangements could affect our costs.

Our future growth will depend on our ability to enter into and retain successful strategic relationships with third parties, and in particular, DSPs. We have entered into long-term revenue share agreements with certain DSPs, including Google and The Trade Desk, which incentivize these partners to continue their relationship with us. Under these agreements, the DSPs receive consideration based on a percentage of the revenue that is received through the use of our products by buyers (e.g., advertisers and agencies) using these DSPs. Our contracts generally renew automatically, but there are some proprietary platform contracts that allow our partners to terminate their agreements with us (including agreements with DSPs with revenue share arrangements) without cause and with short notice periods. Such terminations would result in the loss of important partner relationships and would have an adverse impact on our business, financial condition and results of operations. In addition, if any such key DSPs or other strategic third parties negotiate or otherwise improve economic or other terms that are more favorable to them (including, for example, if a few key DSPs or strategic partners negotiate for a higher revenue share, adversely modify the revenue share arrangements within our overarching agreements with such parties), then our costs could increase, our revenue could decrease and our business, financial condition and results of operations could be materially adversely affected.

Clients periodically review and change their advertising, marketing and corporate communications requirements and relationships. If we are unable to remain competitive, retain key clients or lose several of our largest clients, our business, results of operations and financial position may be adversely affected.

Clients periodically review and change their advertising, marketing and corporate communications requirements and relationships and generally are able to reduce or cancel current or future spending on such projects at any time on short notice for any reason. If we are unable to remain competitive, retain key clients, our business, results of operations and financial position may be adversely affected.

We operate in a highly competitive industry. Key competitive considerations for retaining existing customers and winning new customers include our ability to develop solutions that meet customer needs in a rapidly changing environment, the quality and effectiveness of our services and our ability to serve customers efficiently, particularly large multinational clients, on a broad geographic basis. While many of our client relationships are long-standing, from time to time customers put their verification business up for competitive review. We have won and lost accounts as a result of these reviews. To the extent that we are not able to remain competitive or retain key customers, our revenue may be adversely affected, which could have a material adverse effect on our business, results of operations and financial position.

Our sales and marketing efforts may require significant investments and, in certain cases, involve long sales cycles, which can result in significant time between initial contact with a prospect and execution of a customer contract, making it difficult to project when, if at all, we will obtain new customers and when we will generate revenue from those customers.

Our sales cycle, from initial contact to contract execution and implementation, can take significant time, and may be impacted by a number of factors, such as customer size, number of markets and sales relationship. Our sales efforts involve educating our customers about the use, technical capabilities and benefits of our platform. Some of our customers undertake an evaluation process that frequently involves not only our platform but also the offerings of our competitors. We may spend substantial time and resources prospecting for new business or responding to requests for proposals, and it may not result in revenue. As a result, it is difficult to predict when we will obtain new customers and begin generating revenue from these potential customers. Even if our sales efforts result in obtaining a new customer, for those customers contracting with us on a usage-based pricing model, the customer controls when and to what extent it uses our platform and they may delay activation and usage. As a result, we may not be able to add customers, or generate revenue, as quickly as we may expect, which could harm our growth prospects.

We may need to change our pricing models to compete successfully.

The intense competition we face in the sales of our products and services and general economic and business conditions could put pressure on us to change our prices. If our competitors offer deep discounts on certain products or services or develop products that the marketplace considers more valuable, we may need to lower prices, introduce pricing models and offerings that are less favorable to us, or offer other favorable terms in order to compete successfully. Any such changes could reduce revenues and margins and adversely affect our operating results.

Some of our competitors may bundle products for promotional purposes or as a long-term pricing strategy, commit to large customer deployments at prices that are unprofitable or provide certain guarantees. These practices could, over time, significantly constrain the prices that we charge for certain of our offerings. If we do not adapt our pricing models to reflect changes in customer use of our products or changes in customer demand, our revenues could decrease.

If we do not manage our growth effectively, the quality of our platform and solutions may suffer, and our business, results of operations, and financial condition may be adversely affected.

The continued growth in our business may place demands on our infrastructure and our operational, managerial, administrative, and financial resources. Our success will depend on the ability of our management to manage growth effectively. Among other things, this will require us at various times to:

- strategically invest in the development and enhancement of our platform and data center infrastructure;
- improve coordination among our engineering, product, operations, and other support organizations;
- manage multiple relationships with various partners, customers, and other third parties;
- manage international operations;
- develop our operating, administrative, legal, financial, and accounting systems and controls; and
- recruit, hire, train, and retain personnel.

If we do not effectively manage our growth, the efficacy and performance of our platform may suffer, which could harm our reputation and reduce demand for our platform and solutions. Failure to manage future growth effectively could harm our business and have an adverse effect on our business, results of operations, and financial condition.

Acquisitions we have completed in the past and may consummate in the future, strategic investments or alliances could disrupt our business and harm our business, financial condition and results of operations.

We explore, on an ongoing basis, potential acquisitions of companies or technologies, strategic investments, or alliances to strengthen our business. Over the last three years, we have acquired and integrated four companies (ADmantX, Amino Payments, Publica and Context). As with any acquisition, integration planning is crucial to its success. In particular, we may encounter difficulties integrating the business, technologies, products, personnel or operations of an acquired company. ADmantX, Publica, and Context, due to their specialized technologies and expansion opportunities, required additional resources and planning to integrate.

Even if we identify an appropriate acquisition candidate, we may not be successful in negotiating the terms or financing of the acquisition, and our due diligence may fail to identify all of the problems, liabilities or other shortcomings or challenges of an acquired business, product or technology, including issues related to intellectual property, product quality or architecture, regulatory compliance practices, revenue recognition or other accounting practices, or employee or customer issues. Acquisitions involve numerous risks, any of which could harm our business and financial performance, including:

- regulatory hurdles;
- anticipated benefits may not materialize, or we may fail to identify or assess the magnitude of certain liabilities, shortcomings or other circumstances prior to acquiring the company;
- an acquisition may result in a delay or reduction of purchases for both us and the company that we acquired due to uncertainty about continuity and effectiveness of solution from either company;
- use cash that we may otherwise need for ongoing or future operation of our business;
- we may encounter difficulties in, or may be unable to, successfully sell any acquired products or solutions;
- diversion of management time and focus from operating our business to addressing acquisition integration challenges;
- assume substantial debt or other liabilities, which may be on terms unfavorable to us or that we are unable to repay;
- retention of key employees from the acquired company;
- cultural challenges associated with integrating employees from the acquired company into our organization and challenges inherent in effectively managing an increased number of employees in diverse locations;
- an acquisition may involve the entry into geographic or business markets in which we have little or no prior experience or where competitors have stronger market positions;
- potential strain on our financial and managerial controls and reporting systems and procedures;
- integration of the acquired company's products and technology;
- integration of the acquired company's accounting, management information, human resources, and other administrative systems;
- the need to implement or improve controls, procedures and policies at a business that, prior to the acquisition, may have lacked effective controls, procedures, and policies;
- coordination of product development and sales and marketing functions;

- liability for activities of the acquired company before the acquisition, including relating to privacy and data security, patent and trademark infringement claims, including without limitation, liabilities associated with products or technologies accused or found to infringe on third-party intellectual property rights or violate existing or future privacy regulations; violations of laws, commercial disputes, tax liabilities, and other known and unknown liabilities; and
- litigation or other claims in connection with the acquisition, including claims from terminated employees, customers, former shareholders, or other third parties.

Failure to appropriately mitigate these risks or other issues related to such acquisitions and strategic investments could result in reducing or completely eliminating any anticipated benefits of transactions, and harm our business generally. For additional discussion regarding potential privacy and data protection risks related to the Company's acquisitions, see "—The continuing integration of Publica, as well as other companies we may acquire in the future, has expanded the type and use of individualized data we collect for our business, increasing the risks relating to our compliance with privacy and data protection laws and regulation on digital advertising." Acquisitions, such as the acquisition of Publica, have also resulted in dilutive issuances of our equity securities, the incurrence of debt, contingent liabilities, amortization expenses or the impairment of goodwill, any of which could harm our business, financial condition, and results of operations.

Our international operations require increased expenditures and impose additional risks and compliance imperatives, and failure to successfully execute our international plans will adversely affect our growth and operating results.

We have numerous operations outside of North America, including in the U.K., the E.U., Japan, India, Singapore, and Australia. Our initial international offices were formed in 2013 and nearly all of our subsequent offices have been formed within the past six years. Up until 2022, our international offices have been predominantly sales, customer support, marketing and general and administrative groups.

For sales development, our business strategy includes expanding our customer base internationally, in particular in the Latin America and the APAC regions. Our ability to manage and expand our business and conduct our operations internationally requires considerable attention and resources. Attracting new customers outside the U.S. may require more time and expense than in the U.S., in part due to language barriers and the need to educate such customers about our platform, and we may not be successful in establishing and maintaining these relationships. Additionally, in emerging markets, the cost of our verification services makes up a large percentage of the buyer's media budget, as costs of media in emerging countries are low when compared to developed countries. Within these countries, we often adjust or make concessions to our pricing in order to enter and sell in such markets. As a result, there can be no assurance that we will be successful in expanding our customer base internationally in a cost-effective manner or at all.

The data center and network infrastructure in some overseas markets may not be as reliable as in North America and Europe, which could disrupt our platform and operations. In addition, our international operations will require us to develop and administer our internal controls and legal and compliance practices in countries with different cultural norms, languages, currencies, legal requirements, and business practices than the U.S., which may burden management, increase travel, infrastructure and legal compliance costs, and add complexity to our enforcement of advertising standards across languages and countries. International operations also impose risks and challenges in addition to those faced in the U.S. including:

- management of a distributed workforce;
- nearly all of our teams in locations outside the U.S., with the exception of our growing operations in India, are substantially smaller than some of our teams in the U.S., which may make it hard to grow in international markets;
- the need for sales representatives to be recruited, hired, and retained locally in increasing numbers of countries abroad;

- local labor law requirements, including negotiation and execution of collective bargaining agreements;
- the slower adoption and acceptance of our services in other countries;
- the need for localized software and licensing programs;
- the need for localized language support;
- the need to adapt our offerings to satisfy local requirements, standards, local laws, and regulations, including those relating to privacy, cybersecurity, data security, antitrust, data localization, anti-bribery, import and export controls, economic sanctions, tax and withholding (including overlapping of different tax regimes), varied labor and employment laws (including those relating to termination of employees), corporate formation and other regulatory limitations or obligations on our operations (such as obtaining requisite licenses), and the increased administrative costs and risks associated with such compliance;
- geopolitical and social factors, such as concerns regarding negative, unstable or changing economic conditions in the countries and regions where we operate, global and regional recessions, political instability, and trade disputes;
- laws and business practices that may favor local competitors;
- legal requirements or business expectations that agreements be drafted and negotiated in the local language and disputes be resolved in local courts according to local laws;
- the need to enable transactions in local currencies;
- difficulties in invoicing and collecting in foreign currencies and associated foreign currency exposure and longer accounts receivable payment cycles and other collection difficulties;
- higher levels of credit risk and payment fraud;
- working capital constraints;
- the effect of global and regional recessions and economic and geopolitical instability;
- potentially adverse tax consequences in the U.S. and abroad; staffing challenges, including difficulty in recruiting and retaining qualified personnel as well as managing such a diversity in personnel;
- reduced or ineffective protection of our intellectual property rights in some countries;
- future possible changes in U.S. regulations on exports of U.S. technologies or dealings with certain countries or parties; and
- costs and restrictions affecting the repatriation of funds to the U.S.

One or more of these requirements and risks may make our international operations more difficult and expensive or less successful than we expect and may preclude us from operating in some markets. There is no assurance that our international expansion efforts will be successful, and we may not generate sufficient revenue or margins from our international business to cover our expenses or contribute to our growth.

Certain of our operating results and financial metrics may be difficult to accurately predict as a result of seasonality.

We have experienced, and expect to continue to experience in the future, seasonality in our business, and our operating results and financial condition may be affected by such trends in the future. We generally experience seasonal fluctuations in demand for our solutions and services and believe that our quarterly sales are affected by industry buying patterns. Many marketers tend to devote a significant portion of their budgets to the fourth quarter of the calendar year to coincide with consumer holiday spending and reduce spend in the first quarter of the calendar year. We believe that the seasonal trends that we have experienced in the past may continue for the foreseeable future, particularly as we expand our sales to larger organizations. To the extent we experience this seasonality, it may cause fluctuations in our operating results and financial metrics and make forecasting our future operating results and financial metrics more difficult. Additionally, we do not have sufficient experience in selling certain of our solutions and products to determine if demand for these services are or will be subject to material seasonality.

Our revenue model depends on high impression volumes, the growth of which may not be sustained.

We generate revenue by charging a CPM based on the volume of purchased digital ads that we measure on behalf of these customers. If the volume of impressions we measure does not continue to grow or decreases for any reason, our business will suffer. For example, if digital ad spending remains constant and our advertiser customers transition to higher CPM ad inventory, overall impression volumes may decrease, which may result in fewer impressions for us to verify and a corresponding decline in our revenues. We cannot assure you that growth in volume of impressions will be sustained. If our customers adjust their buying patterns or alter their preference to higher CPM ad inventory, our business, financial condition, and results of operations may be harmed.

We have a short operating history, which makes it difficult to evaluate our future prospects and may increase the risk that we will not be successful.

We have a relatively short operating history, which limits our ability to forecast our future operating results and subjects us to a number of uncertainties, including with respect to our ability to plan for and model future growth. We may not be able to sustain our current rate of growth or maintain our current revenue levels. We have encountered and will continue to encounter risks and uncertainties frequently experienced by growing companies in developing industries. If our assumptions regarding these uncertainties, which we use to manage our business, are incorrect or change in response to changes in our markets, or if we do not address these risks successfully, our operating and financial results could differ materially from our expectations, our business could suffer and our stock price could decline. Any success that we may experience in the future will depend in large part on our ability to, among other things:

- maintain and expand our agreements and integrations with DSPs, proprietary platforms, and other digital advertising technology providers;
- build and maintain long-term relationships with customers, including advertisers, agencies, and publishers;
- develop and offer competitive solutions and products that meet the evolving needs of customers and build a reputation for providing a superior platform and client service;
- maintain a reputation of being a trusted and authoritative source for third-party verification;
- improve the performance and capabilities of our solutions and products;
- successfully expand our business domestically and internationally;
- successfully compete with and distinguish ourselves from other companies that are currently in, or may in the future enter, the markets for our solutions and products;
- increase market awareness of our solutions and products and enhance our brand;

- continue to develop, and increase market adoption of, our solutions and products;
- manage increased operating expenses as we continue to invest in our infrastructure to scale our business and operate as a public company; and
- attract, hire, train, integrate, and retain qualified and motivated employees.

The market for buying digital advertising verification solutions is relatively new and evolving. If this market and the corresponding markets develop slower or differently than we expect, our business, growth prospects and financial condition would be adversely affected.

In 2022, we generated 85% of our revenue from advertiser customers that purchase our services to measure the quality and performance of ads purchased through programmatic platforms and directly from publishers and proprietary platforms to evaluate the quality of ad inventories before they are purchased. We expect that spending on these solutions will continue to be a substantial source of revenue for the foreseeable future. Our growth will depend on us capitalizing on the market opportunity to provide measurement of ad effectiveness and efficiency to brands and help customers understand marketing performance, however our estimate of market opportunity and forecasts of market growth included in this Annual Report may prove to be inaccurate. If the market for ad measurement and effectiveness solutions deteriorates or develops more slowly than we or others expect, demand for our solutions could be lower than expected, and our business, growth prospects, and financial condition would be adversely affected. Even if the market in which we compete meets our size estimates and forecasted growth, our business could fail to grow at similar rates, if at all and we may not be able to bring in sufficient amounts of new customers to keep pace with market growth.

In addition, our revenue may not necessarily grow at the same rate as spend on our solutions. Growth in spend may outpace growth in our revenue as the market for digital advertising verification matures due to a number of factors including pricing competition and shifts in product, media, client, and channel mix. A significant change in revenue as a percentage of spend could reflect an adverse change in our business and growth prospects. In addition, any such fluctuations, even if they reflect our strategic decisions, could cause our performance to fall below the expectations of securities analysts and investors, and adversely affect the price of our common stock.

We may experience fluctuations in our results of operations, which could make our future results of operations difficult to predict or cause our results of operations to fall below analysts' and investors' expectations.

Our quarterly and annual results of operations have fluctuated in the past and we expect our future results of operations to fluctuate due to a variety of factors, many of which are beyond our control. Fluctuations in our results of operations could cause our performance to fall below the expectations of analysts and investors, and adversely affect the price of our common stock. Because our business is changing and evolving rapidly, our historical results of operations may not be necessarily indicative of our future results of operations. Factors that may cause our results of operations to fluctuate include the following:

- maintaining or achieving new industry accreditations, including, but not limited to, accreditations from the MRC;
- changes in demand for digital advertising and for our platform or solutions, including related to the seasonal nature of our customers' spending on digital advertising campaigns;
- changes in the competitive dynamics of our market, including consolidation among competitors or customers and the introduction of new products or product enhancements;
- changes in the economic prospects of marketers, the industries or verticals that we primarily serve, or the economy generally, which could alter marketers' spending priorities or budgets;
- changes to availability of and pricing of competitive products and services, and their effects on our pricing;

- changes in the pricing or availability of digital ad inventory;
- changes in the pricing or availability of data or other third-party services;
- changes in our customer base and platform offerings;
- the addition or loss of customers or the change in customer retention rate and the price paid for our solutions and the rate at which our solutions are used across campaigns;
- the challenges of persuading existing and prospective customers to switch from incumbent service providers;
- the rate at which our solutions are utilized caused by our customers' budgetary constraints, competition, customer dissatisfaction, customer corporate restructuring or change in control, or our customers' actual or perceived lack of need for our products;
- changes in customers' allocations, marketing strategies, targeting strategies, contextual targeting strategies and optimization goals on the use of third-party verification and other measurement services;
- changes to our solutions, products, media, or customer or mix;
- changes and uncertainty in the regulatory environment for us, customers or others in the digital marketing solutions industry, and the effects of our efforts and those of our customers and partners to address changes and uncertainty in the regulatory environment;
- changes in the economic prospects of digital marketers or the economy generally, which could alter customers' spending priorities;
- changes in the pricing and availability of digital ad inventory or in the cost of reaching end consumers through digital advertising;
- disruptions or outages on our platform;
- the introduction of new technologies or offerings by our competitors or others in the digital marketing solutions marketplace;
- changes in our capital expenditures as we acquire the hardware, equipment, and other assets required to support our business;
- the length and unpredictability of our sales cycle;
- global awareness of our thought leadership and brand;
- costs related to acquisitions of businesses or technologies and development of new products;
- cost of employee recruiting and retention;
- changes to the commission plans, quotas, and other compensation-related metrics for our sales representatives;
- any potential future cost and the availability of and ability to integrate data from proprietary platforms, including, but not limited to, Walled Gardens;
- adverse judgments or settlements, or increased legal fees, in legal disputes or government proceedings;
- adoption of new accounting pronouncements; and
- changes to the cost of infrastructure, including real estate and information technology ("IT").

Based upon the factors above and others beyond our control, we have a limited ability to forecast our future revenue, costs and expenses. If we fail to meet or exceed operating results expectations of analysts and investors or if analysts and investors have estimates and forecasts of our future performance that are unrealistic or that we do not meet, the market price of our common stock could decline. In addition, if one or more of the analysts who cover us adversely change their recommendation regarding our stock, the market price of our common stock could decline.

Risks Related to Intellectual Property and Technology

Failures in the systems and infrastructure supporting our solutions and operations could significantly disrupt our operations and harm our business, financial condition and results of operations, harm our reputation and cause us to lose customers.

In addition to the optimal and efficient performance of our platform, our business relies on the continued and uninterrupted performance of our software, hardware, and cloud infrastructures, and our platform and its underlying infrastructure are inherently complex and may contain material defects or errors. We currently process on average over 100 billion daily web transactions through our highly scalable, cloud-based technology platform.

Sustained or repeated system failures of our software or hardware infrastructures (such as massive and sustained data center outages) or of the software or hardware infrastructures of our third-party providers, which inhibit our ability to provide our solutions in a timely manner or cause performance issues with our platform, could significantly reduce the attractiveness of our offering to our customers, reduce our revenue or otherwise negatively impact our financial situation, impair our reputation, undermine trust in our brand, and subject us to significant liability. Specifically, there is significant risk that our proprietary platform partners may cause data delays or misplace data, which impacts our ability to deliver our products and services.

In addition, while we seek to maintain excess capacity to facilitate the rapid provision of new customer deployments and the expansion of existing customer deployments, we may need to increase data center hosting capacity, bandwidth, storage, power, or other elements of our system architecture and our infrastructure as our customer base and/or our traffic continues to grow.

Our existing systems may not be able to scale up in a manner satisfactory to our existing or prospective customers and may not be adequately designed with the necessary reliability and redundancy of certain critical portions of our infrastructure to avoid performance delays or outages that could be harmful to our business. Delivering this increased capacity while concurrently reducing organizational and operational costs or maintaining our current lower cost structure will require us to implement more efficient data processing and to implement more efficient cloud-based services as they become available and drive optimization processes related to the existing environment.

Our failure to continuously upgrade or increase the reliability and redundancy of our infrastructure to meet the demands of a growing base of global customers and partners could adversely affect the functioning and performance of our technology and could in turn affect our results of operations.

Our systems are vulnerable to damage from a variety of sources, some of which are outside of our control, including network and telecommunications failures, natural disasters, terrorism, power outages, a variety of other possible outages affecting data centers, and malicious human acts, including hacking, computer viruses, malware, and other security breaches. Techniques used to obtain unauthorized access or to sabotage systems change frequently and generally are not recognized until launched against a target. As a result, we may be unable to anticipate some of these techniques or to implement adequate preventive measures.

Any steps we take to increase the security, reliability and redundancy of our systems may be expensive and may not be successful in preventing system failures. We have experienced, and may in the future experience, disruptions, outages, and other performance problems due to a variety of factors, including infrastructure changes, introductions of new functionality, human or software errors, capacity constraints due to an overwhelming number of users simultaneously accessing our solutions, distributed denial of service attacks, or other security related incidents.

If we are unable to prevent system failures, the functioning and performance of our solutions could suffer, which in turn could interrupt our business and harm our results of operations, harm our reputation and cause us to lose customers.

Operational, technical and performance issues with our platform, whether real or perceived, may adversely affect our business, reputation, financial condition and operating results.

We depend upon the sustained and uninterrupted performance of our platform to provide digital marketing solutions for ad viewability, ad fraud prevention and brand safety. If our platform cannot scale to meet demand, if there are errors in our execution of any of these functions on our platform, or if we experience outages, then there may be consumer dissatisfaction, damage claims, damage to reputation, and our business may be harmed. For example, if we fail to measure campaigns that were previously paid for by advertisers or our technology interferes with the delivery of ads on websites or other proprietary platforms, we could be subject to lawsuits or requests by our customers that we make them whole, which could include costs of media (i.e., the amount such advertiser paid to websites) that outweigh the verification fees or revenues originally gathered from the customer and could result in litigation or damage to our reputation. We may also face material delays in introducing new services, products and enhancements.

Our platform is complex and multifaceted, and operational and performance issues could arise both from the platform itself and from outside factors. Errors, failures, vulnerabilities, or bugs have been found in the past, and may be found in the future. We also rely on third-party integrations with proprietary platforms, DSPs, ad servers, publishers/websites for our products, and services to perform properly. Additionally, our platform is often used in connection with our customers' respective technology platforms utilizing different operating systems, system management software, equipment and networking configurations, which may cause errors in, or failures of, our platform or such other computing environments. Operational and performance issues with our platform could include the failure of our user interface, outages, data delays, errors during upgrades or patches, errors due to manual data entry or processes, discrepancies in costs billed versus costs paid, unanticipated volume overwhelming our databases, server failure, or catastrophic events affecting one or more cloud environments. While we have built redundancies in our systems, full redundancies do not exist. Some failures will shut our platform down completely, others only partially, but a disrupting event could result in prolonged downtime of our operations. Partial failures, which we have experienced in the past, could result in the misapplication of exclusion and inclusion lists to campaigns or a manual error in keyword lists, resulting in misdelivery of ads, which includes ads being viewed in a context the customer did not want them to be displayed or blocking the ads from being placed where the client intends, in each case resulting in unanticipated financial obligations or impact.

Our platform also operates on our data processing equipment that is housed in third-party commercial data centers that we do not control or on servers owned and operated by cloud-based service providers, which may leave us vulnerable to technical issues or outages that we cannot easily control. Although we generally enter into service level agreements with these parties, we exercise no control over their operations, which makes us vulnerable to any errors, interruptions or delays that they may experience. All of these facilities and systems are vulnerable to interruption and/or damage from a number of sources, many of which are beyond our control. In particular, intentional cyber-attacks present a serious issue because they are difficult to prevent and remediate and can be used to defraud our customers and to steal confidential or proprietary data from us or our customers. These vulnerabilities may increase with the complexity and scope of our systems and their interactions with customers.

Operational and performance issues with our platform could also result in negative publicity, damage to our brand and reputation, loss of or delay in market acceptance of our platform, increased costs or loss of revenue, loss of the ability to access our platform, loss of competitive position, or claims by customers for losses sustained by them. Alleviating problems resulting from such issues could require significant expenditures of capital and other resources and could cause interruptions, delays or the cessation of our business, any of which may adversely affect our financial condition and operating results.

If unauthorized access is obtained to user, customer or inventory and third-party provider data, or our platform is compromised, our services may be disrupted or perceived as insecure, and as a result, we may lose existing customers or fail to attract new customers, and we may incur significant reputational harm and legal and financial liabilities.

Our products and services involve the collection, transmission, and storage of significant amounts of data from buy-side and sell-side customers, third-party publishers (e.g., websites and mobile applications), DSP partners, proprietary platforms and third-party data providers, a large volume of which is hosted by third-party service providers. Our services and data could be exposed to unauthorized access due to activities that breach or undermine security measures, including: negligence or malfeasance by internal or external actors; attempts by outside parties to fraudulently induce employees, customers, or vendors to disclose sensitive information in order to gain access to our data; or errors or vulnerabilities in our systems, products or processes or in those of our service providers, customers, and vendors. From time-to-time, we experience cyberattacks of varying degrees and other attempts to obtain unauthorized access to our systems, including to employee mailboxes. We have dedicated and expect to continue to dedicate resources toward security protections that shield data from these activities. However, such measures cannot provide absolute security. Further, we expect that the deployment of techniques to circumvent our security measures will continue to increase in frequency and sophistication and may not be recognized until launched against a target. Accordingly, we may be unable to anticipate or detect these techniques or to implement adequate preventative measures and we cannot be certain that we will be able to prevent vulnerabilities in our solutions or address vulnerabilities that we may become aware of in the future.

Finally, while we have developed worldwide incident response teams and dedicated resources to incident response processes, such processes could, among other issues, fail to be adequate or accurately assess the incident severity, not proceed quickly enough, or fail to sufficiently remediate an incident. A breach of our security and/or our failure to respond sufficiently to a security incident could disrupt our services and result in theft, misuse, loss, corruption, or improper use or disclosure of data. We also cannot be sure that our existing general liability insurance coverage and coverage for errors or omissions will continue to be available on acceptable terms or will be available in sufficient amounts to cover one or more large claims, or that the insurer will not deny coverage as to any future claim related to such breach. The successful assertion of one or more large claims against us that exceed available insurance coverage, or the occurrence of changes in our insurance policies, including premium increases or the imposition of large deductible or co-insurance requirements, could have a material adverse effect on our business, financial condition, and operating results.

Cyberattacks could also compromise our own trade secrets and other sensitive information and result in such information being disclosed to others and becoming less valuable, which could negatively affect our business, reputation, and our competitive advantage.

Additionally, cybersecurity has become a top priority for regulators around the world, and every state in the U.S. and most other countries have laws in place requiring companies to notify users if there is a security breach that compromises certain categories of their personal information. In the U.S., the SEC has proposed rules for mandatory disclosure of cybersecurity incidents suffered by public companies and cybersecurity governance and risk management. Any failure on our part to comply with these laws may subject us to significant regulatory fines and private litigation, any of which could harm our business.

Our inability to use software licensed from third parties, or our use of open source software under license terms that interfere with our proprietary rights, could disrupt our business.

Our technology platform and internal systems incorporate software licensed from third parties, including some software, known as open source software, which we use without charge. Although we monitor our use of open source software, the terms of many open source licenses to which we are subject have not been interpreted by U.S. or foreign courts, and there is a risk that such licenses could be construed in a manner that imposes unanticipated conditions or restrictions on our ability to provide our technology offering to our customers. Moreover, we cannot ensure that we have not incorporated additional open source software in our products in a manner that is inconsistent with the terms of the applicable license or our current policies and procedures. In the future, we could be required to seek licenses from third parties in order to continue offering our solutions, which licenses may not be available on terms that are acceptable to us, or at all. Claims related to our use of open source software could also result in litigation, require us to purchase costly licenses or require us to devote additional research and development resources to change the software underlying our solutions, any of which would have a negative effect on our business, financial condition, and operating results and may not be possible in a timely manner. We and our customers may also be subject to suits by parties claiming infringement due to the reliance by our solutions on certain open source software, and such litigation could be costly for us to defend or subject us to injunctions enjoining us from the sale of our solutions that contain open source software.

Alternatively, we may need to re-engineer our offering or discontinue using portions of the functionality provided by our technology. In addition, the terms of open source software licenses may require us to provide software that we develop using such software to others on unfavorable terms, such as by precluding us from charging license fees, requiring us to disclose our source code, or requiring us to license certain of our own proprietary source code under the terms of the applicable open source license. Any such restriction on the use of our own software, or our inability to use open source or third-party software, could result in disruptions to our business or operations, or delays in our development of future offerings or enhancements of our existing platform, which could impair our business.

If the non-proprietary technology, software, products and services that we use are unavailable, become subject to future license or other terms we cannot agree to, or do not perform as we expect, our business, financial condition and results of operations could be harmed.

We depend on various technology, software, products, and services from third parties or available as open source, including cloud partners, including AWS, and integration frameworks (e.g., APIs technology, some of which are critical to the features and functionality of our platform and solutions. In 2019 we licensed a text analysis platform pursuant to a 30-year license agreement under which the licensor must also provide at least 10 years of support services. This text analysis platform is critical to our business operations and the loss or limitation of the license or support services under this license agreement could adversely impact our business operations. In order for customers to effectively leverage the reach and opportunity presented by consumers' shift to digital means in ways they desire and otherwise optimize and verify campaigns, our platform must have access to data to provide us with a comprehensive view of digital ad transactions across numerous types of inventory in order to measure data and allow for the verification of the ads. Identifying, negotiating, complying with, and integrating with third-party terms and technology are complex, costly, and time-consuming matters.

In addition, in the future we may identify additional third-party intellectual property which we may need to license in order to engage in our business, including to develop or commercialize new products or services. However, such licenses may not be available on acceptable terms or at all. The licensing or acquisition of third-party intellectual property rights is a competitive area, and other companies may pursue strategies to license or acquire third-party intellectual property rights that we may consider attractive or necessary. Other companies may have a competitive advantage over us due to their size, capital resources and greater development or commercialization capabilities. In addition, companies which perceive us to be a competitor may be unwilling to assign or license rights to us on reasonable pricing terms or at all. If we are unable to enter into the necessary licenses on acceptable terms or at all, it could adversely impact our business, financial condition, and results of operations.

Failure by third-party providers to maintain, support, or secure their technology either generally or for our account specifically, or downtime, errors, or defects in their products or services, could adversely impact our platform, our administrative obligations, or other areas of our business. Having to replace any third-party providers or their technology, products or services could result in outages or difficulties in our ability to provide our services and we may not be able to have replacements for the third-party services or products on economically beneficial terms or within a reasonable timeframe. We also may not be able to create replacement features in-house within a timely and cost-efficient manner. If we are unsuccessful in establishing or maintaining our relationships with our third-party providers or otherwise need to replace them, internal resources may need to be diverted and our business, financial condition and results of operations could be harmed. If we fail to integrate our platform with new third-party applications and platforms that our customers use for marketing, campaign management, sales, or services purposes, or fail to renew existing relationships pursuant to which we currently provide such integration, we may not be able to offer the functionality that our customers need, which would negatively impact our ability to generate new revenue or maintain existing revenue and adversely impact our business.

We may be sued by third parties for alleged infringement, misappropriation or other violation of their proprietary rights, which would result in additional expense and potential damages.

There is significant patent and other intellectual property development activity in the digital marketing industry. Third-party intellectual property rights may cover significant aspects of our technologies or business methods or block us from expanding our offerings. Our success depends on the continual development of our platform. From time to time, we may receive claims from third parties that our platform and underlying technology infringe, misappropriate, or violate such third parties' intellectual property rights. To the extent we gain greater public recognition, these types of suits may occur more frequently, and we may face a higher risk of being the subject of intellectual property claims. The cost of defending against such claims, whether or not the claims have merit, is significant, regardless of whether we are successful in our defense. Defending against such claims could divert the attention of management, technical personnel and other employees from our business operations. Litigation regarding intellectual property rights is inherently uncertain due to the complex issues involved, and we may not be successful in defending ourselves in such matters. Our inability to protect our proprietary technology against unauthorized copying or use, as well as any costly litigation or diversion of our management's attention and resources, could delay further sales or the implementation of our products and platform capabilities, impair the functionality of our products and platform capabilities, delay introductions of new solutions, result in our substituting inferior or more costly technologies into our solutions, or injure our reputation. Any of the foregoing could adversely impact our business, financial, condition and results of operations.

If we fail to comply with any of the obligations under our license agreements, we may be required to pay damages and the applicable licensor may have the right to terminate the license. Termination by the licensor would cause us to lose valuable rights and could prevent us from enabling certain features and functionality into our products and services, selling our products and services, or inhibit our ability to commercialize future solutions. In addition, our rights to certain technologies are licensed to us on a non-exclusive basis. The owners of these non-exclusively licensed technologies are therefore free to license them to third parties, including our competitors, on terms that may be superior to those offered to us, which could place us at a competitive disadvantage. In addition, the agreements under which we license intellectual property or technology from third parties are generally complex, and certain provisions in such agreements may be susceptible to multiple interpretations. The resolution of any contract interpretation disagreement that may arise could narrow what we believe to be the scope of our rights to the relevant intellectual property or technology, or increase what we believe to be our financial or other obligations under the relevant agreement. Any of the foregoing could adversely impact our business, financial condition and results of operations.

Additionally, we have obligations to indemnify certain of our customers or inventory and data suppliers in connection with certain intellectual property claims. We could be required to pay royalty payments, either as a one-time fee or ongoing, as well as damages for past use that was deemed to be infringing. If we cannot license or develop technology for any allegedly infringing aspect of our business, we would be forced to limit or terminate our service and may be unable to compete effectively.

We may be unable to obtain, maintain, protect or enforce intellectual property and proprietary rights that are important to our business, which could enable others to copy or use aspects of our technology without compensating us, thereby eroding our competitive advantages and harming our business.

We rely upon a combination of trade secrets, confidentiality agreements, non-disclosure agreements, assignment of invention agreements, and additional contractual restrictions on disclosure and use as well as trademark, copyright, patent and other intellectual property laws to establish and protect our proprietary rights. These laws, agreements, procedures, and restrictions provide only limited protection. We currently have Channel Science, IAS, IAS (logo), Integral, Integral Ad Science, Quality Impressions, Total Visibility, and TRAQ, among others, and variants and other marks registered as trademarks or pending registration in the U.S. and certain foreign countries. We also rely on copyright laws to protect computer programs related to our platform and our proprietary technologies, although to date we have not registered our copyrights. We have registered numerous internet domain names in the U.S. and certain foreign countries related to our business.

We endeavor to enter into agreements with our employees and contractors in order to limit access to and disclosure of our proprietary information, as well as to assign all intellectual property rights developed for us. However, we may not execute agreements with every party who has access to our confidential information or contributes to the development of our intellectual property and a counterparty to such agreements may not comply herewith. Accordingly, we may become subject to disputes with such individuals regarding the ownership of intellectual property that we consider to be ours. Protecting our intellectual property is a challenge, especially after our employees or our contractors end their relationships with us, and, in some cases, decide to work for our competitors. Our contracts with our employees and contractors that relate to intellectual property issues generally restrict the use of our confidential information solely in connection with our products and services, and strictly prohibit reverse engineering. However, reverse engineering our software and data or the theft or misuse of our proprietary information could still occur by employees or other third parties who have access to our technology. Enforceability of the non-compete agreements that we have in place is not guaranteed, and contractual restrictions could be breached without our knowledge or adequate remedies. Additionally, on January 5, 2023, the U.S. Federal Trade Commission (“FTC”) issued a notice of proposed rulemaking that would prohibit employers from using non-compete agreements. If enacted, the FTC’s proposed rule would prohibit employers from implementing non-compete agreements with our personnel. In such an event, we would be unable to prevent our current employees and other personnel formerly employed by us from competing with us, potentially resulting in the loss of some of our business.

Historically, we have prioritized keeping our technology architecture, trade secrets, and engineering roadmap private and, have not patented the majority of our proprietary technology. As a result, we cannot look to patent enforcement rights to protect much of our proprietary technology. However, as of December 31, 2022, we had 41 issued patents on our proprietary technology, 2 allowed patent applications, and 31 pending patent applications, all in the United States. We may not be able to obtain any further patents, and our pending applications may not result in the issuance of patents. Any issued patents may be challenged, invalidated or circumvented, and any rights granted under these patents may not actually provide adequate defensive protection or competitive advantages to us. Additionally, the process of obtaining and maintaining patent protection is expensive and time-consuming, and we may not be able to prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner. However, effective protection of our intellectual property rights may require additional filings and applications in the future. Pending and future applications may not be approved, and any of our existing or future patents, trademarks or other intellectual property rights may not provide sufficient protection for our business as currently conducted or may be challenged by others or invalidated through administrative process or litigation. Additionally, patent rights in the United States have switched from the former “first-to-invent” system to a “first-to-file” system, which may favor larger competitors that have the resources to timely file more patent applications. Furthermore, our existing patents and any patents issued in the future may give rise to ownership claims or to claims for the payment of additional remuneration of fair price by persons having participated in the creation of the inventions. If we are unable to obtain, maintain, protect, and enforce our intellectual property and proprietary rights, it could have a material adverse effect on our business, operating results, and financial condition.

We may become involved in lawsuits to protect or enforce our intellectual property, which could be expensive, time consuming and unsuccessful.

Third parties, including our competitors, may infringe, misappropriate or otherwise violate our intellectual property rights. Policing unauthorized use of our technology is difficult and we may not detect all such use. In addition, the laws of some foreign countries may not be as protective of intellectual property rights as those of the U.S., and mechanisms for enforcement of our proprietary rights in such countries may be inadequate. If we are unable to protect our proprietary rights (including in particular, the proprietary aspects of our platform) we may find ourselves at a competitive disadvantage to others who have not incurred the same level of expense, time, and effort to create and protect their intellectual property.

In order to protect our intellectual property rights, we may be required to spend significant resources to monitor and protect our intellectual property rights. Litigation we bring to protect and enforce our intellectual property rights could be costly, time-consuming, and distracting to management, and could result in the impairment or loss of portions of our intellectual property. Further, our efforts to enforce our intellectual property rights may be unsuccessful. An adverse determination of any litigation proceedings could put our intellectual property at risk of being invalidated, canceled, or interpreted narrowly. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential or sensitive information could be compromised by disclosure in the event of litigation.

We may become subject to claims that our employees, consultants, or advisors have wrongfully used or disclosed alleged trade secrets of their current or former employers.

Many of our employees and consultants are currently or were previously employed at other companies in our field, including our competitors or potential competitors. Although we try to ensure that our employees and consultants do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we or these individuals have used or disclosed intellectual property, including trade secrets or other proprietary information, of any such individual's current or former employer. Litigation may be necessary to defend against these claims. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management.

If our trademarks and trade names are not adequately protected, we may not be able to build name recognition in our markets of interest and our competitive position may be harmed.

The registered or unregistered trademarks or trade names that we own may be challenged, infringed, circumvented, declared generic, lapsed, or determined to be infringing on or dilutive of other marks. We may not be able to protect our rights in these trademarks and trade names, which we need in order to build name recognition with potential customers. In addition, third parties may file for registration of trademarks similar or identical to our trademarks, thereby impeding our ability to build brand identity and possibly leading to market confusion. If they succeed in registering or developing common law rights in such trademarks, and if we are not successful in challenging such third-party rights, we may not be able to use these trademarks to develop brand recognition of our solutions. In addition, there could be potential trade name or trademark infringement claims brought by owners of other registered trademarks or trademarks that incorporate variations of our registered or unregistered trademarks or trade names. If we are unable to establish name recognition based on our trademarks and trade names, we may not be able to compete effectively, which could adversely impact our business, financial condition and results of operations.

Risks Related to Laws and Regulation

Privacy and data protection laws and regulation on digital advertising may cause us to incur additional or unexpected costs, subject us to enforcement actions for compliance failures, or cause us to change our platform or business model, which may have a material adverse effect on our business.

Information relating to individuals and their devices (sometimes called “personal information” or “personal data”) is regulated under a wide variety of local, state, national, and international laws and regulations that apply to the collection, use, retention, protection, disclosure, transfer (including transfer across national boundaries), and other processing of such data. We typically collect and store IP addresses and other device identifiers (such as unique cookie identifiers and mobile application identifiers), which are considered personal data or personal information in some jurisdictions or otherwise are the subject of regulation.

The State of California adopted a law broadly regulating businesses’ processing of personal information, the CCPA, which went into effect January 1, 2020. The CCPA’s definition of “personal information” is broad enough to include online identifiers provided by individuals’ devices, applications, and protocols (such as IP addresses, mobile application identifiers, and unique cookie identifiers) and individuals’ location data, if there is potential that individuals can be identified by such data. The CCPA established a privacy framework for covered businesses by, among other requirements, establishing new data privacy rights for consumers in the State of California (including rights to deletion of and access to personal information), imposing special rules on the collection of consumer data from minors, creating new notice obligations and new limits on the “sale” of personal information (interpreted by some to include common advertising practices), and creating a new and potentially severe statutory damages framework for violations of the CCPA and for businesses that fail to implement reasonable security procedures and practices to prevent data breaches. The CCPA also offers the possibility to a consumer to recover statutory damages for certain violations and could open the door more broadly to additional risks of individual and class-action lawsuits even though the statute’s private right of action is limited in scope.

The CPRA, which became effective on January 1, 2023, significantly modified and expanded the CCPA, potentially requiring us to incur additional costs and expenses in an effort to comply. Similar comprehensive privacy laws have been enacted in the states of Colorado, Connecticut, Utah and Virginia, each of which become effective at different times in 2023. Given the novelty of these laws and the relative lack of regulatory guidance under the CPRA, it is not fully known how these state privacy laws will be interpreted and enforced.

Laws governing the processing of personal data in Europe (including the E.U. and European Economic Area (“EEA”), and the countries of Iceland, Liechtenstein, and Norway), including GDPR, also continue to impact us. Like the CCPA, the GDPR defines “personal data” broadly, and it enhances data protection obligations for controllers of such data and for service providers processing the data. It also provides certain rights, such as access and deletion, to the individuals about whom the personal data relates. The digital advertising industry has collaborated to create a user-facing framework (the Transparency and Control Framework, or “TCF”) for establishing and managing legal bases under the GDPR and other E.U. privacy laws including ePrivacy (discussed below). Although the TCF is actively in use, its viability as a compliance mechanism is under attack by the Belgian Data Protection Authority (“DPA”) and others, and we cannot predict its effectiveness over the long term. In February 2022, the Belgium DPA issued an order against IAB Europe that imposes specific remedies on IAB Europe and its operations of TCF. IAB Europe appealed the Belgian DPA’s decision, and a Belgian Market Court issued an interim ruling on the appeal and referred preliminary questions to the Court of Justice of the European Union (“CJEU”) for guidance. In January 2023, the Belgium DPA announced the approval of IAB Europe’s action plan, a six-month overhaul of the TCF. However, the CJEU’s guidance remains pending with respect to (i) whether IAB Europe is a joint data controller for the TCF and, (ii) whether the TCF string, the real-time bidding data packet that signals whether someone has given consent for targeting or analytics, counts as personal information. Further, other European regulators have questioned its viability and activists have filed complaints with regulators of alleged non-compliance by specific companies that employ the framework. Non-compliance with the GDPR can trigger steep fines of up to the greater of €20 million or 4% of total worldwide annual revenue. Continuing to maintain compliance with the GDPR’s requirements requires significant time, resources, and expense, as will the effort to monitor whether additional changes to our business practices and our backend configuration are needed, all of which may increase operating costs, or limit our ability to operate or expand our business. These existing and proposed laws, regulations, and industry standards can be costly to comply with and can delay or impede the development of new solutions, result in negative publicity and reputational harm, increase our operating costs, require significant management time and attention, increase our risk of non-compliance, and subject us to claims or other remedies, including fines or demands that we modify or cease existing business practices.

Data processing in the U.K. is governed by a U.K. version of the GDPR (combining the GDPR and the U.K.’s Data Protection Act 2018), exposing us to two parallel regimes, each of which authorizes similar fines and other potentially divergent enforcement actions for certain violations. With respect to transfers of personal data from the EEA to the U.K., the European Commission has published a decision finding that the U.K. ensures an adequate level of data protection, although such decision is subject to renewal and may be revised or revoked in the interim, resulting in uncertainty and the potential for increasing scope for divergence in application, interpretation and enforcement of the data protection law as between the U.K. and EEA. Other countries have also passed or are considering passing laws requiring local data residency or restricting the international transfer of data.

Regulatory investigations and enforcement actions impact us from time to time. In the U.S., the FTC, uses its enforcement powers under Section 5 of the Federal Trade Commission Act (which prohibits “unfair” and “deceptive” trade practices) to investigate companies engaging in online tracking. Advocacy organizations have also filed complaints with data protection authorities against advertising technology companies, arguing that certain of these companies’ practices do not comply with the GDPR. We cannot avoid the possibility that one of these investigations or enforcement actions will involve our practices. Further, our legal risk depends in part on our customers’ or other third parties’ adherence to privacy laws and regulations and their use of our services in ways consistent with end consumer expectations. We rely on representations made to us by customers that they will comply with all applicable laws, including all relevant privacy and data protection regulations. Although we make reasonable efforts to enforce such representations and contractual requirements, we do not fully audit our customers’ compliance with our recommended disclosures or their adherence to privacy laws and regulations. If our customers fail to adhere to our expectations or contracts in this regard, we and our customers could be subject to adverse publicity, damages, and related possible investigation or other regulatory activity.

Adapting our business to privacy laws in the U.S. and their corresponding implementing regulations as well as the enhanced privacy obligations in the E.U. and elsewhere could continue to involve substantial expense and may cause us to divert resources from other aspects of our operations, all of which may adversely affect our business. Further, adaptation of the digital advertising marketplace requires increasingly significant collaboration between participants in the market, such as publishers and advertisers. Failure of the industry to adapt to changes required for operating under laws including the CCPA, CPRA and the GDPR and user response to such changes could negatively impact inventory, data, and demand. We cannot control or predict the pace or effectiveness of such adaptation, and we cannot currently predict the impact such changes may have on our business.

Finally, because the interpretation and application of many privacy and data protection laws (including the GDPR), commercial frameworks, and standards are uncertain, it is possible that these laws, frameworks, and standards may be interpreted and applied in a manner that is inconsistent with our existing data management practices or the features of our solutions. If so, in addition to the possibility of fines, lawsuits, breach of contract claims, and other claims and penalties, we could be required to fundamentally change our business activities and practices or modify our solutions, which could have an adverse effect on our business. Any inability to adequately address privacy and security concerns, even if unfounded, or comply with applicable privacy and security or data security laws, regulations, and policies, could result in additional cost and liability to us, damage our reputation, inhibit sales, and adversely affect our business.

Concerns regarding data privacy and security relating to our industry’s technology and practices, and perceived failure to comply with laws and industry self-regulation, could damage our reputation and deter current and potential customers from using our products and services.

Public perception regarding data protection and privacy are significant in the digital advertising ecosystem. Any perception of our practices, products, or services as a violation of individual privacy rights may subject us to public criticism, loss of customers, partners, or vendors, class action lawsuits, reputational harm, or investigations or claims by regulators, industry groups or other third parties, all of which could significantly disrupt our business and expose us to increased liability. Concerns about industry practices with regard to the collection, use, and disclosure of personal information, whether or not valid and whether driven by applicable laws and regulations, industry standards, customer or inventory provider expectations, or the broader public, may harm our reputation, result in loss of goodwill, and inhibit use of our platform by current and future customers. Perception that our practices involve an invasion of privacy, whether or not such practices are consistent with current or future laws, regulations, or industry practices, may subject us to public criticism, private class actions, reputational harm, or claims by regulators, which could disrupt our business and expose us to increased liability. Data protection laws around the world often take a principled, risk-based approach to information security and require “reasonable”, “appropriate” or “adequate” technical and organizational security measures, meaning that the interpretation and application of those laws are often uncertain and evolving, and there can be no assurance that our security measures will be deemed adequate or reasonable in all instances. Moreover, even security measures that are deemed appropriate, reasonable, and/or in accordance with applicable legal requirements may not be able to protect the information we maintain and may still be viewed negatively by current and potential customers.

Separately, we cannot anticipate unique client certifications or contractual requirements related to security practices, the processing of personal information or of customer confidential information, which could cause us to lose or not obtain new business if we do not have such certifications or meet contractual requirements.

Operating in multiple countries requires us to comply with different legal and regulatory requirements.

Our international operations subject us to laws and regulations of multiple jurisdictions, as well as U.S. laws governing international operations, which are often evolving and sometimes conflict. The Foreign Corrupt Practices Act (“FCPA”), and comparable foreign laws and regulations (including the U.K. Bribery Act) prohibit improper payments or offers of payments to foreign governments and their officials and political parties by U.S. and other business entities for the purpose of obtaining or retaining business. Some of the countries into which we are, or potentially may, expand score unfavorably on the Corruption Perceptions Index (the “CPI”), of the Transparency International. Other laws and regulations prohibit bribery of private parties and other forms of corruption. Furthermore, we are subject to various U.S. export control and trade and economic sanctions laws and regulations, including the U.S. Export Administration Regulations and the various sanctions programs administered by the U.S. Department of the Treasury’s Office of Foreign Assets Control (collectively, “Trade Controls”). Trade Controls may prohibit the shipment of specified products and services to certain countries, governments, and persons. Complying with Trade Controls may also be time-consuming and may result in the delay or loss of opportunities. Some regulations also prevent us from engaging with certain individuals or any companies affiliated with these individuals. As we expand our international operations, we will be subject to increased risk of unauthorized payment or offers of payment or other inappropriate conduct by one of our employees, consultants, agents, or other contractors, including by persons engaged or employed by a business we acquire, as well as increased risk of prohibited dealings with certain countries, governments and persons. Any of these could result in violation by us of various laws, including the FCPA and Trade Controls. While we have implemented safeguards to discourage these practices, such safeguards may prove to be ineffective. Any violations of the FCPA, Trade Controls and other similar laws may result in severe criminal or civil sanctions, or other liabilities or proceedings against us, including class action lawsuits and enforcement actions from the SEC, Department of Justice, and foreign regulators and could also harm our reputation. Other laws applicable to our international business include local employment, tax, privacy, data security, and intellectual property protection laws and regulations, including restrictions on movement of information about individuals beyond national borders. In particular, as explained in more detail elsewhere in this Annual Report, the GDPR imposes substantial compliance obligations and increases the risks associated with collection and processing of personal data. In some cases, our customers and partners operating in non-U.S. markets may impose additional requirements on our non-U.S. business in efforts to comply with their interpretation of their own or our legal obligations. These requirements may differ significantly from the requirements applicable to our business in the U.S. and may require engineering, infrastructure and other costly resources to accommodate, and may result in decreased operational efficiencies and performance.

As these laws continue to evolve and we expand to more jurisdictions or acquire new businesses, compliance will become more complex and expensive, and the risk of non-compliance will increase. Compliance with complex foreign and U.S. laws and regulations that apply to our international operations increases our cost of doing business abroad, and violation of these laws or regulations may interfere with our ability to offer our solution competitively in one or more countries, expose us or our employees to fines and penalties, and result in the limitation or prohibition of our conduct of business. In addition, we have received and continue to receive numerous inquiries from foreign regulators, including in Australia and the U.K., asking for information about digital advertising generally, programmatic advertising, and the influence of dominant corporations in the digital advertising ecosystem, such as Google and Meta. These investigations are costly and time consuming to respond to and divert management attention.

Uncertainty caused by lack of uniformity among laws to which we are or may become subject and instability in the global legal landscape may cause us to incur additional or unexpected costs and legal risk, increase our risk of reputational harm, or cause us to change our platform or business model.

We cannot predict the future of the regulatory landscape regarding the protection of personal information. U.S. (state, federal and local) and foreign governments are considering enacting additional legislation related to privacy and data protection and we expect to see an increase in, or changes to, legislation and regulation in this area. There are numerous federal, state, local and international laws and regulations regarding privacy, data protection, information security and the storing, sharing, use, processing, transfer, disclosure, retention, and protection of personal information and other content, the scope of which is rapidly changing, subject to differing interpretations and may be inconsistent among countries and states, or conflict with other rules. For example, in the U.S., a federal privacy law is the subject of active discussion and several bills have been introduced. Additionally, industry groups in the U.S. and their international counterparts have self-regulatory guidelines that are subject to periodic updates to which we have agreed to adhere. High profile incidents involving breaches of personal information or misuse of consumer information may increase the likelihood of new U.S. federal, state, or international laws or regulations in addition to those set out above, and such laws and regulations may be inconsistent across jurisdictions. While we have adopted a risk-based approach to minimize our impact from noncompliance, with the proliferation of these regulations, both here in the U.S. and international, there can be no assurances that we will maintain full compliance. We have implemented various features intended to enable our customers to better protect end consumer privacy, but these measures may not alleviate all potential privacy concerns and threats. Even the perception of privacy concerns, whether or not valid, may inhibit use of our platform. Privacy advocacy groups and the technology and other industries are considering various new, additional or different self-regulatory standards that may place additional burdens on us. The costs of compliance with, and other burdens imposed by these groups' policies and actions may limit the use and adoption of our platform and reduce overall demand for it, or lead to significant fines, penalties, or liabilities for any noncompliance or loss of any such action. We are also subject to the terms of our privacy policies and contractual obligations to third parties related to privacy, data protection, and information security. Any such breaches of personal information could result in government investigations, enforcement actions, trigger audits by customers, significant remediation costs, lawsuits and other legal and financial liability, and/or loss of confidence in the availability and security of our products and services, any of which could seriously harm our reputation and brand and impair our ability to attract and retain customers. While our contracts and technical specifications with customers, data providers, vendors, DSPs, and proprietary platforms from importing or otherwise providing IAS with information that would allow us to directly identify individuals, if one or more of these parties provided such information in violation of our policies and our systems are breached, we could be subject to contractual breach and indemnification claims from other parties.

Changes in data residency and cross-border transfer restrictions also impact our operations. For the transfer of personal data from the E.U. to the U.S., we rely upon standard contractual clauses ("SCCs"). SCCs and other mechanisms available to us to validate the transfer of data from the E.U. to the U.S. continue to face criticism from privacy advocates and legal challenges in E.U. courts and may need to be updated or replaced as amended to legitimize the transfer of personal information from the E.U. to the U.S. If successful challenges leave us with no reasonable option for the lawful cross-border transfer of personal data, and if we nonetheless continue to transfer personal data from the E.U. to the U.S., that could lead to governmental enforcement actions, litigation, fines, and penalties or adverse publicity, which could have an adverse effect on our reputation and business or cause us to need to establish systems to maintain certain data in the E.U., which may involve substantial expense and cause us to divert resources from other aspects of our operations, all of which may adversely affect our business. Other jurisdictions have adopted or are considering cross-border or data residency restrictions, which could reduce the amount of data we can collect or process and, as a result, significantly impact our business.

Additionally, as the digital marketing industry evolves and new ways of collecting, combining and using data are created, governments may enact legislation in response to technological advancements and changes that could result in our having to re-design features or functions of our platform, therefore incurring unexpected compliance costs.

These laws and other obligations may be interpreted and applied in a manner that is inconsistent with our existing data management practices or the features of our platform. If so, in addition to the possibility of fines, lawsuits, and other claims, we could be required to fundamentally change our business activities and practices or modify our products, which could have an adverse effect on our business. For example, jurisdictions may require data localization and reconfiguring of our infrastructure, which would create costs and create inefficiencies. If we are required to silo data (and are limited in leveraging all the data collected across all customers in all locations), our solutions may be not as effective or accurate. Additionally, we may be unable to make such changes and modifications in a commercially reasonable manner or at all, and our ability to develop new products and features could be limited. All of this could impair our or our customers' ability to collect, use, or disclose information relating to consumers, which could decrease demand for our platform, increase our costs, and impair our ability to maintain and grow our customer base and increase our revenue.

We are subject to taxation in multiple jurisdictions. Any adverse development in the tax laws of any of these jurisdictions or any disagreement with our tax positions could have a material and adverse effect on our business, financial condition or results of operations.

We are subject to taxation in, and to the tax laws and regulations of, multiple jurisdictions as a result of the international scope of our operations and our corporate entity structure. We are also subject to transfer pricing laws with respect to our intercompany transactions, including those relating to the flow of funds among our companies. For example, many of the jurisdictions in which we conduct business have detailed transfer pricing rules which require that all transactions with non-resident related parties be priced using arm's length pricing principles. Contemporaneous documentation must exist to support this pricing. The tax authorities in these jurisdictions could challenge whether our related party transfer pricing policies are at arm's length and, as a consequence, challenge our tax treatment of corresponding expenses and income. International transfer pricing is an area of taxation that depends heavily on the underlying facts and circumstances and generally involves a significant degree of judgment. If any of these tax authorities were successful in challenging our transfer pricing policies, we may be liable for additional corporate income tax, and penalties, fines, and interest related thereto, which may have a significant impact on our effective tax rate, results of operations, and future cash flows.

Adverse developments in these laws or regulations, or any change in position regarding the application, administration or interpretation thereof, in any applicable jurisdiction, could have a material and adverse effect on our business, financial condition or results of operations. Changes in tax laws, such as tax reform in the U.S. or changes in tax laws resulting from the Organization for Economic Co-operation and Development's multi-jurisdictional plan of action to address "base erosion and profit shifting," could impact our effective tax rate. In addition, the tax authorities in any applicable jurisdiction, including the U.S., may disagree with the positions we have taken or intend to take regarding the tax treatment or characterization of any of our transactions. We continue to monitor the impact of the Inflation Reduction Act of 2022 and related regulatory developments to evaluate their potential impact on our business, tax rate and financial results. If any applicable tax authorities, including U.S. tax authorities, were to successfully challenge the tax treatment or characterization of any of our transactions, it could have a material and adverse effect on our business, financial condition, or results of operations.

Taxing authorities may successfully assert that we should have collected or in the future should collect sales and use, value added or similar taxes, and we could be subject to liability with respect to past or future sales, which could adversely affect our results of operations.

In certain cases, we have concluded that we do not need to collect sales and use, value added and similar taxes in jurisdictions in which we have sales. Sales and use, value added and similar tax laws and rates vary greatly by jurisdiction. Certain jurisdictions in which we do not collect such taxes may assert that such taxes are applicable, which could result in tax assessments, penalties, and interest, and we may be required to collect such taxes in the future. Such tax assessments, penalties and interest or future requirements may adversely affect our financial condition and results of operations.

Our annual effective income tax rate can change materially as a result of changes in our mix of U.S. and foreign earnings and other factors, including changes in tax laws and changes made by regulatory authorities.

Our overall effective rate is equal to our total tax expense as a percentage of total earnings before tax. However, income tax expense and benefits are not recognized on a global basis but rather on a jurisdictional or legal entity basis. Losses in one jurisdiction might not be usable to offset profits in other jurisdictions, which may cause an increase in our effective tax rate. Changes in statutory tax rates and laws, as well as audits by domestic and international authorities, could affect the amount of income taxes and other taxes paid by us. Changes in the mix of earnings (or losses) between jurisdictions and assumptions used in the calculation of income taxes, among other factors, could have a significant effect on our overall effective income tax rate.

Risks Related to Being a Public Company

We previously identified material weaknesses in our internal control over financial reporting that continues to exist. If we are unable to remediate the material weaknesses in a timely manner, if we identify additional material weaknesses or fail to design and maintain effective internal control over financial reporting, our ability to accurately report our financial condition and results of operations on a timely basis or comply with applicable laws and regulations could be impaired, which may adversely affect investor confidence and, as a result, the value of our common stock.

In connection with the preparation of our consolidated financial statements for the year ended December 31, 2019, we identified material weaknesses in our internal control over financial reporting. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis. See Part II, Item 9A “Controls and Procedures” of this Annual Report.

Management identified the following material weaknesses:

- a. The Company did not design policies to maintain evidence of the operation of key control procedures, nor were monitoring controls evidenced at a sufficient level to provide the appropriate oversight of activities related to our internal control over financial reporting. Additionally, we did not design and maintain controls to ensure (i) the appropriate segregation of duties in the operation of manual controls and (ii) account reconciliations, journal entries, and balance sheet and income statement fluctuation analyses were reviewed at the appropriate level of precision.
- b. The Company did not design and maintain effective controls over information technology, or IT, general controls for information systems that are relevant to the preparation of the consolidated financial statements. Specifically, we did not design and maintain (i) program change management controls for financial systems to ensure that IT program and data changes affecting financial IT applications and underlying accounting records are identified, tested, authorized and implemented appropriately, (ii) user access controls to ensure appropriate segregation of duties and that adequately restrict user and privileged access to financial applications, programs, and data to appropriate personnel, (iii) computer operations to ensure that critical batch jobs are monitored, privileges are appropriately granted, and data backups are authorized and monitored, and (iv) testing and approval controls for program development to ensure that new software development is aligned with business and IT requirements for financially relevant IT systems.

These deficiencies described above did not result in a misstatement to our consolidated financial statements. However, each of the material weaknesses described above, if not remediated, could result in a material misstatement to the annual or interim consolidated financial statements that would not be prevented or detected.

Management is continuing to implement measures to remediate the identified material weaknesses. The measures include (i) formalizing the company's accounting policies with respect to maintaining evidence in the operation of control procedures, (ii) improving our control framework to include both the appropriate segregation of duties and definition around the appropriate levels of precision for controls, including account reconciliations, journal entries, and balance sheet and income statement fluctuation analyses, (iii) designing and documenting the execution of IT general controls for systems and applications impacting internal control over financial reporting, specifically related to user access, change management, computer operations, and program development controls.

While we are performing remediation activities to strengthen our controls, the material weaknesses will not be considered remediated until management completes the design and implementation of the measures described above and the controls operate for a sufficient period of time and management has concluded, through testing, that these controls are effective.

We are working to remediate the material weaknesses as efficiently and effectively as possible and expect full remediation could potentially go beyond December 31, 2023. At this time, we cannot provide an estimate of costs expected to be incurred in connection with implementing this remediation plan; however, these remediation measures will be time consuming, incur significant costs, and place significant demands on our financial and operational resources.

We cannot assure that the measures we have taken to date, and that we plan to take, will be sufficient to remediate the material weaknesses we have identified or to avoid additional material weaknesses in future periods. If the measures taken do not remediate the material weaknesses in a timely manner, a reasonable possibility will remain that these or other control deficiencies could result in a material misstatement of our annual or interim consolidated financial statements that would not be prevented or detected on a timely basis.

If we are unable to assert that our internal control over financial reporting is effective investors may lose confidence in the accuracy and completeness of our financial reports, the market price of our common stock could be adversely affected and we could become subject to litigation or investigations by the stock exchange on which our securities are listed, the SEC, or other regulatory authorities, which could require additional financial and management resources.

We are an “emerging growth company” and have elected to comply with reduced public company reporting requirements, which could make our common stock less attractive to investors.

We are an “emerging growth company,” as defined in the JOBS Act. For as long as we continue to be an emerging growth company, we are eligible for certain exemptions from various public company reporting requirements. These exemptions include, but are not limited to, (i) not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, (ii) reduced disclosure obligations regarding executive compensation in our periodic reports, proxy statements and registration statements and (iii) exemptions from the requirements of holding a non-binding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved. We can remain an emerging growth company until as late as December 31, 2026. However, if certain events occur prior to the end of 2023, including if we become a “large accelerated filer,” our annual gross revenue exceeds \$1.235 billion or we issue more than \$1.0 billion of non-convertible debt in any three-year period, we would cease to be an emerging growth company prior to December 31, 2026. We have made certain elections with regard to the reduced disclosure obligations regarding executive compensation and may elect to take advantage of other reduced disclosure obligations in future filings. As a result, the information that we provide to holders of our common stock may be different than you might receive from other public reporting companies in which you hold equity interests. We cannot predict if investors will find our common stock less attractive as a result of our reliance on these exemptions. If some investors find our common stock less attractive as a result of any choice we make to reduce disclosure, there may be a less active trading market for our common stock and the market price for our common stock may be more volatile.

Under the JOBS Act, emerging growth companies may also elect to delay adoption of new or revised accounting standards until such time as those standards apply to private companies. We have elected to “opt-in” to this extended transition period for complying with new or revised accounting standards and, therefore, we will not be subject to the same new or revised accounting standards as other public companies that comply with such new or revised accounting standards on a non-delayed basis. Our financial statements may not be comparable to companies that comply with public company effective dates because of this election.

The requirements of being a public company may strain our resources and distract our management, which could make it difficult to manage our business, particularly after we are no longer an “emerging growth company.”

As a public company, we incur incremental legal, governance, accounting, and other expenses. We are subject to the reporting requirements of the Exchange Act, the Sarbanes-Oxley Act, the listing requirements of the Nasdaq and other applicable securities rules and regulations. Compliance with these rules and regulations has and will continue to increase our legal and financial compliance costs, make more expensive for us to maintain director and officer liability insurance, make some activities more difficult, time-consuming or costly and increase demand on our systems and resources, particularly after we are no longer an “emerging growth company.” The Exchange Act requires that we file annual, quarterly, and current reports with respect to our business, financial condition and results of operations. The Sarbanes-Oxley Act requires, among other things, that we establish and maintain effective internal controls and procedures for financial reporting. We have made, and will continue to make, changes to our internal controls and procedures for financial reporting and accounting systems to meet our reporting obligations as a public company. However, the measures we take may not be sufficient to satisfy our obligations as a public company.

If we fail to maintain an effective system of internal control over financial reporting in the future, we may not be able to accurately or timely report our financial condition or results of operations. If our internal control over financial reporting is not effective, it may adversely affect investor confidence in us and the price of our common stock.

As a public company, we are required to maintain internal control over financial reporting and to report any material weaknesses in such internal control. Section 404 of the Sarbanes-Oxley Act requires that we evaluate and determine the effectiveness of our internal control over financial reporting and provide a management report on our internal control over financial reporting.

Our platform system applications are complex, multi-faceted and include applications that are highly customized in order to serve and support our customers, advertising inventory and data suppliers, as well as support our financial reporting obligations. We regularly make improvements to our platform to maintain and enhance our competitive position. In the future, we may implement new offerings and engage in business transactions, such as acquisitions, reorganizations or implementation of new information systems. These factors require us to develop and maintain our internal controls, processes, and reporting systems, and we expect to incur ongoing costs in this effort. We may not be successful in developing and maintaining effective internal controls, and any failure to develop or maintain effective controls, or any difficulties encountered in their implementation or improvement, could harm our operating results or cause us to fail to meet our reporting obligations and may result in a restatement of our financial statements for prior periods.

Our management team has limited experience managing a public company.

Most members of our management team have limited experience managing a publicly traded company, interacting with public company investors, and complying with the increasingly complex laws, rules, and regulations that govern public companies. As a public company, we are subject to significant obligations relating to reporting, procedures and internal controls, and our management team may not successfully or efficiently manage such obligations. These obligations and scrutiny will require significant attention from our management and could divert their attention away from the day-to-day management of our business, which could adversely affect our business, financial condition, and results of operations.

We depend on our senior management team and other key personnel to manage our business effectively, and if we are unable to retain such key personnel or hire additional qualified personnel, our ability to compete could be harmed.

Our Company is led by a strong management team that has extensive experience leading technology and digital marketing companies. Our success and future growth depend to a significant degree on the leadership, knowledge, skills and continued services of our senior management team and other key personnel. The loss of any of these persons, as well as our failure to onboard and maintain qualified senior management and personnel, could adversely affect our business.

If we are unable to attract, integrate and retain additional qualified personnel, including top technical talent, our business could be adversely affected.

Our success and our ability to maintain and grow our product portfolio depends in part on our ability to identify, attract, integrate, and retain highly skilled technical, managerial, sales, and other personnel, including top technical talent from the industry. We face intense competition for qualified individuals from numerous other companies, including other companies in the digital ad ecosystem, many of whom have greater financial and other resources than we do. These companies also may provide more diverse opportunities and better chances for career advancement. Some of these characteristics may be more appealing to high-quality candidates. In addition, new hires often require significant training and, in many cases, take significant time before they achieve full productivity. We may incur significant costs to attract and retain qualified personnel, including significant expenditures related to salaries and benefits and compensation expenses related to equity awards and we may lose new employees to our competitors or other companies before we realize the benefit of our investment in recruiting and training them. Moreover, new employees may not be or become as productive as we expect, as we may face challenges in adequately or appropriately integrating them into our workforce and culture. In addition, as we move into new geographies, we will need to attract and recruit skilled personnel in those areas. Failure to attract sufficiently skilled personnel will have a materially adverse effect on our growth plans. We may face challenges in attracting, integrating, and retaining employees. If we are unable to attract, integrate, and retain suitably qualified individuals who are capable of meeting our growing technical, operational and managerial requirements, on a timely basis or at all, our business will be adversely affected.

Risks Relating to Our Indebtedness

Our existing indebtedness could adversely affect our business and growth prospects.

On September 29, 2021, Integral Ad Science, Inc., as borrower (the “Borrower”) and Kavacha Holdings, Inc., as a guarantor (“Holdings”), each a wholly-owned domestic subsidiary of the Company, entered into a credit agreement (the “Credit Agreement”) with the lenders party thereto and PNC Bank, National Association, as administrative agent.

As of December 31, 2022, we had total current and long-term indebtedness of \$225.0 million under our Revolver. All obligations under the Credit Agreement are secured by substantially all of the assets of (i) Borrower and (ii) the material domestic subsidiaries of Holdings and Borrower, subject to permitted liens and other exceptions. Our indebtedness, or any additional indebtedness we may incur, could require us to divert funds identified for other purposes for debt service and impair our liquidity position. If we cannot generate sufficient cash flow from operations to service our debt, we may need to refinance our debt, dispose of assets, or issue equity to obtain necessary funds. We do not know whether we will be able to take any of these actions on a timely basis, on terms satisfactory to us or at all.

Our level of indebtedness may place us at a competitive disadvantage to our competitors that are not as highly leveraged. Fluctuations in interest rates can increase borrowing costs. Increases in interest rates may directly impact the amount of interest we are required to pay and reduce earnings accordingly. In addition, developments in tax policy, such as the disallowance of tax deductions for interest paid on outstanding indebtedness, could have an adverse effect on our liquidity and our business, financial conditions, and results of operations. Further, our Credit Agreement contains customary affirmative and negative covenants and certain restrictions on operations that could impose operating and financial limitations and restrictions on us, including restrictions on our ability to enter into particular transactions and to engage in other actions that we may believe are advisable or necessary for our business.

Interest rates under the Credit Agreement are based partly on the London interbank offered rate ("LIBOR"). LIBOR will be phased out by the middle of 2023. The U.S. Federal Reserve has begun publishing a Secured Overnight Funding Rate ("SOFR") as an alternative reference rate to LIBOR. There can be no assurance that the application of or transition to SOFR or any other alternative reference rate will not increase our interest expense or will not introduce operational risks in our accounting or financial reporting and other aspects of our business.

We expect to use cash flow from operations to meet current and future financial obligations, including funding our operations, debt service requirements, and capital expenditures. The ability to make these payments depends on our financial and operating performance, which is subject to prevailing economic, industry, and competitive conditions and to certain financial, business, economic, and other factors beyond our control.

Despite current indebtedness levels and restrictive covenants, we may still be able to incur substantially more indebtedness or make certain restricted payments, which could further exacerbate the risks associated with our substantial indebtedness.

We may be able to incur significant additional indebtedness in the future. Although our Credit Agreement contains restrictions on the incurrence of additional indebtedness and liens, these restrictions are subject to a number of important qualifications and exceptions, and the additional indebtedness and liens incurred in compliance with these restrictions could be substantial.

Our Credit Agreement permits us to incur certain additional indebtedness, including liabilities that do not constitute indebtedness under and pursuant to the Credit Agreement. We may also consider investments in joint ventures or acquisitions, which may increase our indebtedness. If new debt is added to our currently anticipated indebtedness levels, the related risks that we face could intensify.

We may not be able to generate sufficient cash flow to service all of our indebtedness, and may be forced to take other actions to satisfy our obligations under such indebtedness, which may not be successful.

Our ability to make scheduled payments or to refinance outstanding debt obligations depends on our financial and operating performance, which will be affected by prevailing economic, industry, and competitive conditions and by financial, business, and other factors beyond our control. We may not be able to maintain a sufficient level of cash flow from operating activities to permit us to pay the principal, premium, if any, and interest on our indebtedness. Any failure to make payments of interest and principal on our outstanding indebtedness on a timely basis would likely result in a reduction of our credit rating, which would also harm our ability to incur additional indebtedness.

If our cash flows and capital resources are insufficient to fund our debt service obligations, we may be forced to reduce or delay capital expenditures, sell assets, seek additional capital, or seek to restructure or refinance our indebtedness. Any refinancing of our indebtedness could be at higher interest rates and may require us to comply with more onerous covenants. These alternative measures may not be successful and may not permit us to meet our scheduled debt service obligations. In the absence of such cash flows and resources, we could face substantial liquidity problems and might be required to sell material assets or operations to attempt to meet our debt service obligations. The financing documents governing our Credit Agreement include certain restrictions on our ability to conduct asset sales and/or use the proceeds from asset sales for general corporate purposes. We may not be able to consummate these asset sales to raise capital or sell assets at prices and on terms that we believe are fair and any proceeds that we do receive may not be adequate to meet any debt service obligations then due. If we cannot meet our debt service obligations, the holders of our indebtedness may accelerate such indebtedness and, to the extent such indebtedness is secured, foreclose on our assets. In such an event, we may not have sufficient assets to repay all of our indebtedness.

The terms of the financing documents governing our Credit Agreement restrict our current and future operations, particularly our ability to respond to changes or to take certain actions.

The financing documents governing our Credit Agreement contain a number of restrictive covenants that impose significant operating and financial restrictions on us and may limit our ability to engage in acts that may be in our long-term best interests, including restrictions on our ability to:

- incur additional indebtedness;
- pay dividends on or make distributions in respect of capital stock or repurchase or redeem capital stock;
- prepay, redeem, or repurchase certain indebtedness;
- make loans and investments;
- sell or otherwise dispose of assets, including capital stock of restricted subsidiaries;
- incur liens;
- enter into transactions with affiliates;
- enter into agreements restricting the ability of our subsidiaries to pay dividends; and
- consolidate, merge, or sell all or substantially all of our assets.

You should read the discussion under the heading “Description of Certain Indebtedness” for further information about these covenants.

The restrictive covenants in the financing documents governing our Credit Agreement require us to maintain specified financial ratios and satisfy other financial condition tests to the extent applicable. Our ability to meet those financial ratios and tests can be affected by events beyond our control.

A breach of the covenants or restrictions under the financing documents governing our Credit Agreement could result in an event of default under such documents. Such a default may allow the creditors to accelerate the related debt, which may result in the acceleration of any other debt to which a cross-acceleration or cross-default provision applies. In the event the holders of our indebtedness accelerate the repayment, we may not have sufficient assets to repay that indebtedness or be able to borrow sufficient funds to refinance it. Even if we are able to obtain new financing, it may not be on commercially reasonable terms or on terms acceptable to us. As a result of these restrictions, we may be:

- limited in how we conduct our business;
- unable to raise additional debt or equity financing to operate during general economic;

- business downturns; or
- unable to compete effectively or to take advantage of new business opportunities.

These restrictions, along with restrictions that may be contained in agreements evidencing or governing other future indebtedness, may affect our ability to grow in accordance with our growth strategy.

We may be unable to refinance our indebtedness.

We may need to refinance all or a portion of our indebtedness before maturity. We cannot assure you that we will be able to refinance any of our indebtedness on commercially reasonable terms or at all. There can be no assurance that we will be able to obtain sufficient funds to enable us to repay or refinance our debt obligations on commercially reasonable terms, or at all.

Our failure to raise additional capital or generate cash flows necessary to expand our operations and invest in new technologies in the future could reduce our ability to compete successfully and harm our results of operations.

We may need to raise additional funds, and we may not be able to obtain additional debt or equity financing on favorable terms or at all. If we raise additional equity financing, our security holders may experience significant dilution of their ownership interests. If we engage in additional debt financing, we may be required to accept terms that restrict our ability to incur additional indebtedness, force us to maintain specified liquidity or other ratios or restrict our ability to pay dividends or make acquisitions. If we need additional capital and cannot raise it on acceptable terms, or at all, we may not be able to, among other things:

- develop and enhance our products;
- continue to expand our product development, sales, and marketing organizations;
- hire, train and retain employees;
- respond to competitive pressures or unanticipated working capital requirements; or
- pursue acquisition opportunities.

In addition, our Credit Agreement also limits our ability to incur additional debt and therefore we likely would have to amend our Credit Agreement or issue additional equity to raise capital. If we issue additional equity, your interest in us will be diluted.

Risks Related to Ownership of Our Common Stock

Vista Equity Partners controls us, and its interests may conflict with ours or yours in the future.

As of December 31, 2022, funds affiliated with Vista Equity Partners ("Vista") beneficially owned approximately 61% of our common stock. Vista continues to control the vote of all matters submitted to a vote of our board of directors, or our Board, or shareholders, which enables it to control the election of the members of the Board and all other corporate decisions. In addition, our bylaws provide that Vista has the right to designate the Chair of the Board for so long as Vista beneficially owns at least 35% or more of the voting power of the then outstanding shares of our capital stock then entitled to vote generally in the election of directors. Even when Vista ceases to own shares of our stock representing a majority of the total voting power, for so long as Vista continues to own a significant portion of our stock, Vista will still be able to significantly influence the composition of our Board, including the right to designate the Chair of our Board, and the approval of actions requiring shareholder approval. Accordingly, for such period of time, Vista has significant influence with respect to our management, business plans, and policies, including the appointment and removal of our officers, decisions on whether to raise future capital and amending our charter and bylaws, which govern the rights attached to our common stock. In particular, for so long as Vista continues to own a significant percentage of our stock, Vista will be able to cause or prevent a change of control of us or a change in the composition of our Board, including the selection of the Chair of our Board, and could preclude any unsolicited acquisition of us. The concentration of ownership could deprive you of an opportunity to receive a premium for your shares of common stock as part of a sale of us and ultimately might affect the market price of our common stock.

In addition, in connection with our initial public offering ("IPO") we entered into a Director Nomination Agreement with Vista that provides Vista the right to designate: (i) all of the nominees for election to our Board for so long as Vista beneficially owns 40% or more of the total number of shares of our common stock it owned as of the date of the IPO; (ii) a number of directors (rounded up to the nearest whole number) equal to 40% of the total directors for so long as Vista beneficially owns at least 30% and less than 40% of the total number of shares of our common stock it owned as of the date of the IPO; (iii) a number of directors (rounded up to the nearest whole number) equal to 30% of the total directors for so long as Vista beneficially owns at least 20% and less than 30% of the total number of shares of our common stock it owned as of the date of the IPO; (iv) a number of directors (rounded up to the nearest whole number) equal to 20% of the total directors for so long as Vista beneficially owns at least 10% and less than 20% of the total number of shares of our common stock it owned as of the date of the IPO; and (v) one director for so long as Vista beneficially owns at least 5% and less than 10% of the total number of shares of our common stock it owned as of the date of the IPO. The Director Nomination Agreement also provides that Vista may assign such right to a Vista affiliate. The Director Nomination Agreement prohibits us from increasing or decreasing the size of our Board without the prior written consent of Vista.

Vista and its affiliates engage in a broad spectrum of activities, including investments in the information and business services industry generally. In the ordinary course of their business activities, Vista and its affiliates may engage in activities where their interests conflict with our interests or those of our other shareholders, such as investing in or advising businesses that directly or indirectly compete with certain portions of our business or are suppliers or customers of ours. Our certificate of incorporation provides that none of Vista, any of its affiliates or any director who is not employed by us (including any non-employee director who serves as one of our officers in both his director and officer capacities) or its affiliates has any duty to refrain from engaging, directly or indirectly, in the same business activities or similar business activities or lines of business in which we operate. Vista also may pursue acquisition opportunities that may be complementary to our business, and, as a result, those acquisition opportunities may not be available to us. In addition, Vista may have an interest in pursuing acquisitions, divestitures and other transactions that, in its judgment, could enhance its investment, even though such transactions might involve risks to you.

We are a “controlled company” within the meaning of the rules of the Nasdaq and, as a result, we qualify for, and have relied upon, exemptions from certain corporate governance requirements. Therefore, you do not have the same protections as those afforded to shareholders of companies that are subject to such governance requirements.

Vista controls a majority of the voting power of our outstanding common stock. As a result, we are a “controlled company” within the meaning of the corporate governance standards of the Nasdaq. Under these rules, a company of which more than 50% of the voting power for the election of directors is held by an individual, group or another company is a “controlled company” and may elect not to comply with certain corporate governance requirements, including:

- the requirement that a majority of our Board consist of independent directors;
- the requirement that director nominees be selected or recommended by a nominating committee that is composed entirely of independent directors or by a majority of independent directors; and
- the requirement that we have a compensation committee that is composed entirely of independent directors with a written charter addressing the committee’s purpose and responsibilities.

We have utilized and expect to continue utilizing these exemptions. As a result, we may not have a majority of independent directors on our Board and our Compensation and Nominating Committee may not consist entirely of independent directors. Accordingly, you do not have the same protections afforded to shareholders of companies that are subject to all of the corporate governance requirements of the Nasdaq.

An active, liquid trading market for our common stock may not be sustained, which may limit your ability to sell your shares.

There is a limited history of a public market for our common stock. Although we have listed our common stock on the Nasdaq under the symbol “IAS,” an active trading market for our shares may not be sustained. A public trading market having the desirable characteristics of depth, liquidity, and orderliness depends upon the existence of willing buyers and sellers at any given time, such existence being dependent upon the individual decisions of buyers and sellers over which neither we nor any market maker has control. The failure of an active and liquid trading market to continue would likely have a material adverse effect on the value of our common stock. The market price of our common stock may decline, and you may not be able to sell your shares of our common stock at or above the price you paid, or at all. An inactive market may also impair our ability to raise capital to continue to fund operations by issuing shares and may impair our ability to acquire other companies or technologies by using our shares as consideration.

Provisions of our corporate governance documents could make an acquisition of us more difficult and may prevent attempts by our shareholders to replace or remove our current management, even if beneficial to our shareholders.

In addition to Vista’s beneficial ownership of 61% of our common stock, our certificate of incorporation and bylaws and the Delaware General Corporation Law (the “DGCL”), contain provisions that could make it more difficult for a third party to acquire us, even if doing so might be beneficial to our shareholders. Among other things:

- allowing us to authorize the issuance of undesignated preferred stock, the terms of which may be established and the shares of which may be issued without shareholder approval, and which may include supermajority voting, special approval, dividend, or other rights or preferences superior to the rights of shareholders;
- providing for a classified board of directors with staggered three-year terms;
- providing that, at any time when Vista beneficially owns, in the aggregate, less than 40% in voting power of the stock entitled to vote generally in the election of directors, directors may only be removed for cause, and only by the affirmative vote of holders of at least 66 2/3% in voting power of all the then-outstanding shares of our stock entitled to vote thereon, voting together as a single class;

- prohibiting shareholder action by written consent from and after the date on which Vista beneficially owns, in the aggregate, less than 35% in voting power of our stock entitled to vote generally in the election of directors;
- providing that for as long as Vista beneficially owns, in the aggregate, at least 50% in voting power of our stock entitled to vote generally in the election of directors, any amendment, alteration, rescission, or repeal of our bylaws by our shareholders will require the affirmative vote of a majority in voting power of the outstanding shares of our stock and at any time when Vista beneficially owns, in the aggregate, less than 50% in voting power of all outstanding shares of our stock entitled to vote generally in the election of directors, any amendment, alteration, rescission or repeal of our bylaws by our shareholders will require the affirmative vote of the holders of at least 66 2/3% in voting power of all the then-outstanding shares of our stock entitled to vote thereon, voting together as a single class; and
- establishing advance notice requirements for nominations for elections to our Board or for proposing matters that can be acted upon by shareholders at shareholder meetings; provided, however, at any time when Vista beneficially owns, in the aggregate, at least 10% in voting power of our stock entitled to vote generally in the election of directors, such advance notice procedure will not apply to it.

Our certificate of incorporation contains a provision that provides us with protections similar to Section 203 of the DGCL, and prevents us from engaging in a business combination with a person (excluding Vista and any of its direct or indirect transferees and any group as to which such persons are a party) who acquires at least 15% of our common stock for a period of three years from the date such person acquired such common stock, unless Board or shareholder approval is obtained prior to the acquisition. These provisions could discourage, delay or prevent a transaction involving a change in control of our Company. These provisions could also discourage proxy contests and make it more difficult for you and other shareholders to elect directors of your choosing and cause us to take other corporate actions you desire, including actions that you may deem advantageous, or negatively affect the trading price of our common stock. In addition, because our Board is responsible for appointing the members of our management team, these provisions could in turn affect any attempt by our shareholders to replace current members of our management team.

These and other provisions in our certificate of incorporation, bylaws and Delaware law could make it more difficult for shareholders or potential acquirers to obtain control of our Board or initiate actions that are opposed by our then-current Board, including delay or impede a merger, tender offer or proxy contest involving our Company. The existence of these provisions could negatively affect the price of our common stock and limit opportunities for you to realize value in a corporate transaction.

Our certificate of incorporation designates the Court of Chancery of the State of Delaware as the exclusive forum for certain litigation that may be initiated by our shareholders and the federal district courts of the United States as the exclusive forum for litigation arising under the Securities Act, which could limit our shareholders' ability to obtain a favorable judicial forum for disputes with us.

Pursuant to our certificate of incorporation, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for (1) any derivative action or proceeding brought on our behalf, (2) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers or other employees to us or our shareholders, (3) any action asserting a claim against us arising pursuant to any provision of the DGCL, our certificate of incorporation or our bylaws or (4) any other action asserting a claim against us that is governed by the internal affairs doctrine; provided that for the avoidance of doubt, the forum selection provision that identifies the Court of Chancery of the State of Delaware as the exclusive forum for certain litigation, including any "derivative action", will not apply to suits to enforce a duty or liability created by Securities Act, the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction. Our certificate of incorporation also provides that unless we consent in writing to the selection of an alternative forum, the federal district courts of the United States shall be the exclusive forum for the resolutions of any complaint asserting a cause of action arising under the Securities Act.

Moreover, Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all claims brought to enforce any duty or liability created by the Securities Act or the rules and regulations thereunder and our certificate of incorporation also provides that, unless we consent in writing to the selection of an alternative forum and to the fullest extent permitted by law, the federal district courts of the United States shall be the exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act. While there can be no assurance that federal or state courts will follow the holding of the Delaware Supreme Court or determine that our federal forum provision should be enforced in a particular case, application of our federal forum provision means that suits brought by our shareholders to enforce any duty or liability created by the Securities Act must be brought in federal court and cannot be brought in state court.

Section 27 of the Exchange Act creates exclusive federal jurisdiction over all claims brought to enforce any duty or liability created by the Exchange Act or the rules and regulations thereunder and our certificate of incorporation provides that neither the exclusive forum provision nor our federal forum provision applies to suits brought to enforce any duty or liability created by the Exchange Act. Accordingly, actions by our shareholders to enforce any duty or liability created by the Exchange Act or the rules and regulations thereunder must be brought in federal court. Our shareholders will not be deemed to have waived our compliance with the federal securities laws and the regulations promulgated thereunder.

Our certificate of incorporation further provides that any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock is deemed to have notice of and consented to the provisions of our certificate of incorporation described above. The forum selection clause in our certificate of incorporation may have the effect of discouraging lawsuits against us or our directors and officers and may limit our shareholders' ability to obtain a favorable judicial forum for disputes with us. If the enforceability of our forum selection provisions were to be challenged, we may incur additional costs associated with resolving such challenge. While we currently have no basis to expect any such challenge would be successful, if a court were to find our forum selection provisions to be inapplicable or unenforceable with respect to one or more of these specified types of actions or proceedings, we may incur additional costs associated with having to litigate in other jurisdictions, which could have an adverse effect on our business, financial condition, results of operations, cash flows, and prospects and result in a diversion of the time and resources of our employees, management, and board of directors.

Because we have no current plans to pay regular cash dividends on our common stock for the foreseeable future, you may not receive any return on investment unless you sell your common stock for a price greater than that which you paid for it.

We do not anticipate paying any regular cash dividends on our common stock for the foreseeable future. Any decision to declare and pay dividends in the future will be made at the discretion of our Board and will depend on, among other things, our results of operations, financial condition, cash requirements, contractual restrictions, and other factors that our Board may deem relevant. In addition, our ability to pay dividends is, and may be, limited by covenants of existing and any future outstanding indebtedness we or our subsidiaries incur, including under our Credit Agreement. Therefore, any return on investment in our common stock is solely dependent upon the appreciation of the price of our common stock on the open market, which may not occur.

If securities or industry analysts do not publish research or reports about our business, if they adversely change their recommendations regarding our shares or if our results of operations do not meet their expectations, our stock price and trading volume could decline.

The trading market for our shares will be influenced by the research and reports that industry or securities analysts publish about us or our business. We do not have any control over these analysts. If one or more of these analysts cease coverage of us or fail to publish reports on us regularly, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline. Moreover, if one or more of the analysts who cover us downgrade our stock, or if our results of operations do not meet their expectations, our stock price could decline.

We may issue shares of preferred stock in the future, which could make it difficult for another company to acquire us or could otherwise adversely affect holders of our common stock, which could depress the price of our common stock.

Our certificate of incorporation authorizes us to issue one or more series of preferred stock. Our Board has the authority to determine the preferences, limitations, and relative rights of the shares of preferred stock and to fix the number of shares constituting any series and the designation of such series, without any further vote or action by our shareholders. Our preferred stock could be issued with voting, liquidation, dividend, and other rights superior to the rights of our common stock. The potential issuance of preferred stock may delay or prevent a change in control of us, discouraging bids for our common stock at a premium to the market price, and materially adversely affect the market price and the voting and other rights of the holders of our common stock.

General Risk Factors

Our corporate culture has contributed to our success and, if we are unable to maintain it, our business, financial condition and results of operations could be harmed.

We believe our corporate culture has been a key element of our success. However, various factors, including operating in multiple jurisdictions, reductions in workforce, such as the one effected at the end of 2022, and remote work and operations, may make it difficult to maintain our culture, which could reduce our ability to innovate and operate effectively. The failure to maintain the key aspects of our culture could result in decreased employee satisfaction, increased difficulty in attracting top talent, increased turnover and could compromise our ability to maintain our infrastructure and platform, the quality of our customer service, all of which are important to our success and to the effective execution of our business strategy. In the event we are unable to maintain our corporate culture as we grow to scale, our business, financial condition, and results of operations could be harmed.

Our business is subject to the risks of earthquakes, fires, floods and other natural catastrophic events and to interruption by man-made problems such as terrorism, computer viruses or social disruption impacting advertising spending.

Our systems and operations are vulnerable to damage or interruption from earthquakes, fires, floods, hurricanes, other acts of nature, power losses, telecommunications failures, terrorist or criminal acts or attacks, social issues, protests, discontent, and disruption that affect advertising spending or the ability for publishers to monetize inventory, vandalism, sabotage, acts of war, human errors, break-ins, cyber-attacks or failures, pandemics or other public health crises, or similar events. A significant natural disaster, such as an earthquake, fire, or flood, could have a material adverse impact on our business, operating results and financial condition, and our insurance coverage may be insufficient to compensate us for losses that may occur. Additionally, our business and revenues could be affected by social issues, protests or disruptions. If there is public disapproval or boycotting of a specific platform, such as Meta or other proprietary platforms, our ability to measure and optimize ad placements or to forecast usage may be impacted based on unforeseen trends or events. In addition, acts of terrorism could cause disruptions in our business or the economy as a whole. Our cloud partners, including AWS, may also be vulnerable to computer viruses, break-ins, cyber-attacks, such as coordinated denial-of-service attacks or ransomware, or other failures, and similar disruptions from unauthorized tampering with our computer systems, which could lead to interruptions, delays, loss of critical data or the unauthorized disclosure of confidential customer data. Although we have implemented security measures and disaster recovery capabilities, there can be no assurance that we will not suffer from business interruption, or unavailability or loss of data, as a result of any such events. As we rely heavily on our servers, computer, and communications systems and the internet to conduct our business and provide high quality service to our customers, such disruptions could negatively impact our ability to run our business, result in loss of existing or potential customers and increased expenses, and/or have an adverse effect on our reputation and the reputation of our products and services, any of which would adversely affect our operating results and financial condition.

Continued scrutiny and changing expectations from investors, lenders, customers, government regulators and other stakeholders may impose additional costs on us and/or expose us to additional risks.

Public companies across all industries are facing increasing scrutiny from investors, lenders, customers, government regulators and other stakeholders with respect to various areas of their operations, including with respect to ESG activities and initiatives. In the U.S., there are various regulatory efforts relating to ESG matters, including proposed new or enhanced disclosure requirements for public companies relating to climate emissions, human capital resources and workforce diversity. The E.U., its Member States and other countries, have already issued a number of regulations relating to climate change, emission reduction and environmental stewardship. Complying with these complex laws, regulations and stakeholder expectations around the world will require additional resources and increase our costs of compliance.

Item 1B. Unresolved Staff Comments

Not applicable.

Item 2. Properties

In December 2021, we subleased our corporate headquarters in New York, New York for the remainder of the lease term through March 2027. As a result, we currently occupy a temporary physical corporate headquarters. We have domestic offices in Chicago and the San Francisco Bay area, and our international presence is primarily concentrated in London, Paris, Berlin, Hamburg, Madrid, Milan, Modena, Stockholm, Sydney, Tokyo, Singapore, and Pune.

We lease all of our facilities. We believe that our facilities are adequate for our current needs and anticipate that suitable additional space will be readily available to accommodate any foreseeable expansion of our operations.

Item 3. Legal Proceedings

From time to time, we have been and may be involved in various legal proceedings and claims arising in our ordinary course of business. At this time, neither we nor any of our subsidiaries is a party to, and none of our respective property is the subject of, any legal proceeding that, if determined adversely to us, would individually or in the aggregate, have a material adverse effect on our business, operating results, cash flows or financial condition.

Item 4. Mine Safety Disclosures

None.

Part II.

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity

Market Information for Our Common Stock

Our common stock, \$0.001 par value per share, began trading on the Nasdaq under the symbol "IAS" on July 2, 2021. Prior to that time, there was no public market for our common stock.

Holders of Record

As of March 1, 2023, there were 39 holders of record of our common stock. This figure does not include a greater number of beneficial holders of our common stock whose shares are held by clearing houses, banks, brokers and other financial institutions.

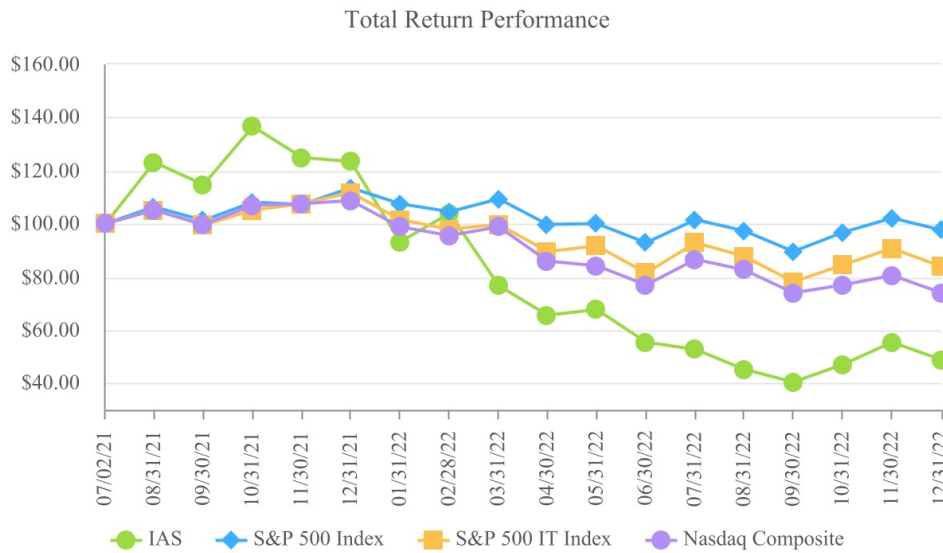
Dividend Policy

We have never declared or paid any cash dividends on our capital stock, and we do not currently intend to pay any cash dividends in the foreseeable future. We expect to retain future earnings, if any, to fund the development and growth of our business. Any decision to declare and pay dividends in the future will be made at the discretion of our Board and will depend on, among other things, our results of operations, financial condition, cash requirements, contractual restrictions and other factors that our Board may deem relevant. In addition, our ability to pay dividends is, and may be, limited by covenants of existing and any future outstanding indebtedness we or our subsidiaries incur, including under our Credit Agreement.

Stock Performance Graph

The following performance graph and related information shall not be deemed to be "soliciting material" or "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liabilities of that section or Sections 11 and 12(a)(2) of the Securities Act of 1933, as amended, and shall not be incorporated by reference into any registration statement or other document filed by us with the SEC, whether made before or after the date of this Annual Report on Form 10-K, regardless of any general incorporation language in such filing, except as shall be expressly set forth by specific reference in such filing.

The following graph and related information shows a comparison of the cumulative total return for our common stock, Standard & Poor's 500 Index ("S&P 500 Index"), Standard & Poor's 500 Information Technology Index ("S&P 500 IT Index") and the Nasdaq Composite Index ("Nasdaq Composite") between July 2, 2021 (the date our common stock commenced trading on the Nasdaq) through December 31, 2022. All values assume an initial investment of \$100 and reinvestment of any dividends. We have not paid any cash dividends and, therefore, the cumulative total return calculation for our common stock is based solely upon stock price appreciation (depreciation) and not reinvestment of cash dividends. The comparisons are based on historical data and are not indicative of, nor intended to forecast, the future performance of our common stock.



Recent Sales of Unregistered Securities and Use of Proceeds

None.

Issuer Purchases of Equity Securities

None.

Item 6. Reserved

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our consolidated financial statements and related notes appearing elsewhere in this Annual Report on Form 10-K. As discussed in the section titled "Forward Looking Statements," the following discussion and analysis contains forward looking statements that involve risks and uncertainties, as well as assumptions that, if they never materialize or prove incorrect, could cause our results to differ materially from those expressed or implied by such forward looking statements. Factors that could cause or contribute to these differences include, but are not limited to, those identified below and those discussed in the section titled "Risk Factors" in Part I, Item 1A of this Annual Report on Form 10-K.

A discussion regarding our financial condition and results of operations for 2022 compared to 2021 is presented below.

Unless the context otherwise requires, the terms "Company," "Integral Ad Science Holding Corp.," "IAS," "we," "us," "our," or similar terms refer to Integral Ad Science Holding LLC and its consolidated subsidiaries before the corporate conversion, and Integral Ad Science Holding Corp. and, where appropriate, its subsidiaries after the corporate conversion. See Note 1 to the consolidated financial statements for additional information regarding our corporate conversion.

Overview

We are a leading digital media quality company. Through our cloud-based technology platform and the actionable insights it provides, we deliver independent measurement and verification of digital advertising across all devices, channels, and formats, including desktop, mobile, connected TV ("CTV"), social, display, and video. Our proprietary and Media Rating Council (the "MRC") accredited Quality Impressions® metric is designed to verify that digital ads are served to a real person rather than a bot, viewable on-screen, and appear in a brand-safe and suitable environment in the correct geography.

Without an independent evaluation of digital advertising quality, brands and their agencies previously relied on a wide range of publishers and ad platforms to self-report and measure the effectiveness of campaigns without a global benchmark to understand success. We are an independent, trusted partner for buyers and sellers of digital advertising to increase accountability, transparency, and effectiveness in the market. We help advertisers optimize their ad spend and better measure consumer engagement with campaigns across platforms, while enabling publishers to improve their inventory yield and revenue.

As a leading digital media quality partner, we have deep integrations with all the major advertising and technology platforms including Facebook, Instagram, Google, YouTube, LinkedIn, Amazon, Microsoft, Pinterest, Snap, Spotify, TikTok, The Trade Desk, Twitter, Xandr, Yahoo, and Yahoo. Our platform uses advanced artificial intelligence ("AI") and machine learning ("ML") technologies to process over 100 billion daily web transactions on average. With this data, we deliver real-time insights and analytics to our global customers through our easy-to-use reporting platform, IAS Signal™, helping brands, agencies, publishers, and platform partners improve media quality and campaign performance.

Our pre-bid and post-bid verification solutions enable advertisers to measure campaign performance and value across viewability, ad fraud prevention, brand safety and suitability, and contextual targeting for ads on desktop, mobile in-app, social, and CTV platforms. Our pre-bid programmatic solution is directly integrated with DSPs to help optimize return on ad spend (“ROAS”) by directing budget to the best available inventory. Our contextual ability is enabled through our deep integrations with all major DSPs. In addition, our targeting and pre-bid solutions extend to the social platforms. Additionally, our Total Visibility® offering provides marketers with actionable insights to optimize their campaign spend and drive higher yield by focusing on the most efficient and cost effective pathways. Our solutions help hundreds of publishers globally deliver high quality ad inventory that is fraud free, viewable, brand safe and suitable, and geographically targeted.

Macroeconomic and Geopolitical Conditions

Current adverse macroeconomic and geopolitical conditions, including the conflict in Ukraine, heightened inflation, slower growth or recession and its effects on consumer spending, changes to fiscal and monetary policy, higher interest rates, currency fluctuations, ongoing challenges in the supply chain and the continued effects of the COVID-19 pandemic have adversely affected our results. In response to heightened levels of inflation in 2022, central banks, including the U.S. Federal Reserve and the European Central Bank, have increased interest rates. Our operating expenses are denominated in the currencies of the countries in which our operations are located, and our consolidated results of operations and cash flows are, therefore, subject to fluctuations due to changes in foreign currency exchange rates. The U.S. dollar may continue to strengthen against these foreign currencies if the Federal Reserve further raises the federal funds rate, which may result in downstream impacts to global exchange rates and further adverse impacts to our reported results. To address the current macroeconomic environment, we have taken steps to become a more capital efficient company. On December 7, 2022, we announced a planned reduction in workforce to better align resources and operational efficiency and productivity.

Our business depends on the overall demand for advertising and on the economic health of advertisers that benefit from our platform. Economic downturns, recessions or unstable market conditions are difficult to predict and cause advertisers to decrease their advertising budgets, which in turn reduces spend through our platform. Current macroeconomic trends adversely affected advertising revenue in 2022, and we expect that such trends will continue to impact advertising budgets during 2023.

Throughout the COVID-19 pandemic, we had sufficient liquidity and capital resources to continue to meet our operating needs and service our debt. However, if macroeconomic conditions continue to deteriorate our results of operations may be adversely affected.

Our Business Model

We generate revenue based on the volume of purchased digital ads that our solution measures. Advertisers and publishers use our media quality solutions for ad viewability, brand safety, optimization, context control, and ad fraud prevention. Our customers primarily pay us based on usage, where the customer pays a fee based on the total volume of ads measured. Certain contracts with customers utilize other pricing arrangements, including minimum commitments, overages based on tiered pricing or flat fees. We maintain an expansive set of integrations across the digital advertising ecosystem, including with leading programmatic and social platforms, which enables us to cover all key channels, formats and devices.

Key Factors Affecting Our Performance

Our historical financial performance has been, and we expect our financial performance in the future to be, driven by our ability to:

Innovate and Develop New Products for Key High-Growth Segments

- ***Programmatic.*** We aim to deliver greater performance on programmatic ad buying via innovative solutions including attention, contextual targeting and brand safety and suitability. These solutions include traditional open-web media buying and select retail-media platforms.

- *Social.* We aim to develop deeper integrations with social platforms, also known as Walled Gardens, including video-based brand safety and suitability, to deliver continued transparency to our customers.
- *CTV.* We plan to continue to expand our CTV-specific verification solutions and contextual targeting capabilities to address the fast-growing CTV segment. In 2022, we integrated data from our Publica acquisition to power new methods of measuring and targeting performant CTV impressions.
- *Adjacent Product Expansion.* We plan to expand our platforms and integrations to address new verification and measurement needs for our clients.

For example, in 2019, our CTV solution expanded our presence into this important and emerging digital channel. Similarly, with the introduction of our pre-bid contextual capability in 2020, we not only enhanced our core verification offering, but we were also able to expand into contextual targeting addressing new needs and providing new value to our customers. In 2021, we acquired Publica, a leading CTV ad platform and launched our brand safety solution for in-feed video ads on TikTok and in 2022, we expanded our advanced contextual targeting to over 50 languages.

Increase Sales Within Our Existing Customer Base

We aim to increase the use of our products among existing customers across more campaigns and impressions. Given our comprehensive product portfolio, we believe we can cross-sell additional or new solutions to provide end-to-end coverage to more clients from pre-bid viewability to post-bid verification, fraud prevention, safety, suitability, and targeting.

Acquire New Customers and Increase Market Share

Our ability to acquire new customers and increase our market share is dependent upon a number of factors, including the effectiveness of our solutions, marketing and sales to drive new business prospects and execution, client digital marketing investment adoption, new products and feature offerings, global reach and the growth of the market for digital ad verification. There is a market opportunity to provide advertisers directly or through advertising agencies with verification services, specifically around ad viewability, ad fraud prevention and brand safety and suitability. Based on a March 2021 analysis by Frost & Sullivan, we estimate the global market opportunity for our ad verification solutions to be \$9.5 billion and expect it to grow at a 16.2% CAGR from 2021 to 2025. We plan to work with the top 500 global advertisers by targeting high-spend verticals and brands with a natural sensitivity for brand safety, brand suitability, and ROAS needs. We believe we will increase our market share by strengthening our relationships with the leading social platforms, enhancing our programmatic solutions, deriving benefit from our broad global position, and leveraging our differentiated data science and market-leading contextual capabilities.

Expand Customer Base Internationally

Our ability to expand our customer base internationally is dependent upon a number of factors, including effectively implementing our business processes and go-to-market strategy, our ability to adapt to market or cultural differences, the general competitive landscape, our ability to invest in our sales and marketing channels, the maturity and growth trajectory of our services by region and our brand awareness and perception. Global marketers are becoming increasingly cognizant of the value of sophisticated verification strategies and, as such, we believe there is growing demand for our services internationally. Our investments in international markets resulted in an 8% growth in revenue year-over-year. We believe that Latin America and the APAC region may represent substantial growth opportunities, and we are investing in developing our business in those markets by way of expanded in-market customer service investment and by leveraging our global relationships. We aim to continue to grow outside the U.S. in Europe and other established markets such as Australia and Japan and view ourselves as best positioned to continue penetrating these markets given our market-leading global footprint.

Seasonality

We experience fluctuations in revenue that coincide with seasonal fluctuations in the digital ad spending of our customers. The global advertising industry experiences seasonal trends that affect the vast majority of participants in the digital advertising ecosystem. Most notably, advertisers have historically spent relatively more in the fourth quarter of the calendar year to coincide with the holiday shopping season, and relatively less in the first quarter. We expect seasonality trends to continue, and our ability to manage our resources in anticipation of these trends will affect our operating results. Consequently, the fourth quarter usually reflects the highest level of measurement activity and the first quarter reflects the lowest level of activity. Our revenue, cash flow, operating results and other key operating and performance metrics may vary from quarter to quarter due to the seasonal nature of our clients' spending on advertising campaigns. While our revenue is highly re-occurring, seasonal fluctuations in ad spend may impact quarter-over-quarter results. We believe that the year-over-year comparison of results more appropriately reflects the overall performance of the business. See "Risk Factors—Certain of our operating results and financial metrics may be difficult to accurately predict as a result of seasonality."

Key Business Metrics

In addition to our financial information prepared in conformity with the generally accepted accounting principles in the United States ("GAAP"), we review a number of operating and financial metrics, including the following key metrics, to evaluate our business, measure our performance, identify trends affecting our business, formulate business plans and make strategic decisions. The key business metrics presented are based on our advertising customers, as revenue from these customers represents substantially all the revenue.

The following table sets forth our key performance indicators for the periods set forth below:

	Year Ended December 31,		
	2022	2021	2020
Net revenue retention of advertising customers (%) (as of the end of the period)	118%	128%	108%
Total advertising customers (as of the end of the period)	2,103	2,073	1,873
Total number of large advertising customers (as of the end of the period)	199	183	160

Net revenue retention of advertising customers

We define net revenue retention of advertising customers as a metric to reflect the expansion or contraction of our advertising customers' revenue by measuring the period-over-period change in trailing twelve-month revenues from customers who were also advertising customers in the prior trailing twelve-month period. As such, this metric includes the impact of any churned, or lost, advertising customers from the prior trailing twelve-month period as well as any increases or decreases in their spend, including the positive revenue impacts of selling new services to an existing advertising customer. The numerator and denominator include revenue from all advertising customers that we served and from which we recognized revenue in the earlier of the two trailing twelve-month periods being compared. For purposes of discussing our key business metrics, we define an advertising customer as any advertiser account that spends at least \$3,000 in the applicable trailing twelve month periods. We calculate our net revenue retention of advertising customers as follows:

Numerator: The total revenue earned during the current trailing twelve-month period from the cohort of advertising customers in the prior trailing twelve-month period.

Denominator: The total revenue earned during the immediately preceding trailing twelve-month period from such cohort of advertising customers in such trailing twelve-month period.

The quotient obtained from this calculation is our net revenue retention rate of advertising customers.

Our calculation of net revenue retention of advertising customers may differ from similarly titled metrics presented by other companies.

Our net revenue retention of advertising customers decreased to 118% for the year ended December 31, 2022 from 128% for the year ended December 31, 2021. The decrease in the net revenue retention of advertising customers for the year ended December 31, 2022 was primarily due to the decrease in revenue growth from our advertising customers of 23% in 2022 compared to 33% revenue growth in 2021. Revenue in 2021 reflects higher growth due to improved macroeconomic conditions compared to revenue in 2020 which was impacted by COVID-19.

Total advertising customers

We view the number of advertising customers as a key indicator of our scale and growth and the adoption of our platform. We determine our number of advertising customers by counting the total number of advertiser accounts who have spent at least \$3,000 in the trailing twelve months. Our total number of advertising customers increased to 2,103 as of December 31, 2022 from 2,073 as of December 31, 2021. The total number of advertising customers has limitations as an operating metric as it does not reflect the product mix chosen by our advertising customers, the order frequency, or the purchasing behavior of our advertising customers. Because of these and other limitations, we consider, and you should consider, advertising customers in conjunction with our other metrics, including net revenue retention, net loss, adjusted EBITDA, and average revenue per advertising customer.

Total number of large advertising customers

Historically our revenue has been driven primarily by a subset of large advertising customers. Increasing awareness of our solutions, further developing our sales and marketing expertise and continuing to build solutions that address the unique needs of the top 500 global advertisers have increased our number of large advertising customers. We determine our number of large advertising customers by counting the total number of advertising accounts who have spent at least \$200,000 per year. We believe our ability to recruit and cross sell our products to large advertising customers is critical to our long-term success. Our total number of large advertising customers increased to 199 as of December 31, 2022 from 183 as of December 31, 2021. As macroeconomic conditions fluctuate, including inflationary pressures and increased interest rates, there is no guarantee that we will continue to see an increase of large advertising customers.

Components of Results of Operations

Revenue

We derive revenue primarily from advertisers (buy-side) and publishers (sell-side). Our pre-bid and post-bid verification solutions enable advertisers to measure campaign performance and value across viewability, ad fraud prevention, brand safety and suitability, and contextual targeting for ads on desktop, mobile in-app, social, and CTV platforms. Our pre-bid programmatic solution is directly integrated with DSPs to help optimize return on ad spend by directing budgets to the best available inventory. Our solutions help publishers globally deliver high quality ad inventory that is fraud free, viewable, brand safe and suitable, and geographically targeted.

We recognize revenue when control of the promised services are transferred to customers. We recognize revenue by multiplying the CPM and the number of impressions measured. An impression is measured by the platform when a digital ad is served to a real person rather than a bot, viewable on-screen, and presented in a brand-safe and suitable environment in the correct geography. Contracts with our customers primarily utilize a usage-based structure, where the customer pays a fee to the Company based on the total ads measured. Depending on our customer needs, our contracts may also utilize other pricing arrangements, including minimum commitments, overages based on tiered pricing or flat fees.

Operating Expenses

Cost of revenue. Cost of revenue consists of data center costs, hosting fees, revenue share with our DSP partners and personnel costs. Personnel costs include salaries, bonuses, equity-based compensation, and employee benefit costs, primarily attributable to our customer operations group. Our customer operations group is responsible for onboarding, integration of new clients and providing support for existing customers, including technical support for our technology platform and product offering. We allocate overhead such as rent and occupancy and information technology infrastructure charges based on headcount.

Sales and marketing. Sales and marketing expenses consist primarily of personnel costs, including salaries, bonuses, equity-based compensation, employee benefits costs and commission costs, for our sales and marketing personnel. Sales and marketing expense also includes costs for advertising, promotional and other marketing activities. We allocate overhead such as rent and occupancy and information technology infrastructure charges based on headcount. Sales commissions are expensed as incurred.

Technology and development. Technology and development expenses consist primarily of personnel costs of our engineering, product, and data sciences activities. Personnel costs including salaries, bonuses, equity-based compensation and employee benefits costs, third-party consultant costs associated with the ongoing development and maintenance of our technology platform and product offering. We allocate overhead such as rent and occupancy and information technology infrastructure charges based on headcount. Technology and development costs are expensed as incurred, except to the extent that such costs are associated with software development that qualifies for capitalization, which are then recorded as capitalized software development costs included in internal use software, net on our Consolidated Balance Sheet.

General and administrative. General and administrative expenses consist of personnel costs, including salaries, bonuses, equity-based compensation, and employee benefits costs for our executive, finance, legal, human resources, information technology, and other administrative employees. General and administrative expenses also include outside consulting, legal and accounting services, allocated facilities costs, and travel and entertainment primarily related to intra-office travel and conferences.

Depreciation and amortization. Depreciation and amortization expense consists primarily of depreciation and amortization expenses related to customer relationships, developed technologies, trademarks, favorable leases, equipment, leasehold improvements and other tangible and intangible assets. We depreciate and amortize our assets in accordance with our accounting policies. Maintenance and repairs, which do not extend the useful life of the respective assets, are charged to expense as incurred. Intangible assets are amortized on a straight-line basis over their estimated useful lives or using an accelerated method.

Facility exit costs. Facility exit costs were incurred in connection with the sublease of our New York corporate headquarters.

Foreign exchange loss, net. Foreign exchange loss, net, is impacted by fluctuations in exchange rates and the amount of foreign-currency denominated cash, receivables, intercompany balances, and payables.

Interest expense, net

Interest expense, net. Interest expense consists primarily of interest payments on our outstanding borrowings under our Prior Credit Facility, Credit Facility (each as defined below under "Liquidity and Capital Resources") and amortization of related debt issuance costs net of interest income.

Employee retention tax credit

Employee retention tax credit. Employee retention tax credit was recognized in connection with our submission for employee retention credits under the Coronavirus Aid, Relief, and Economic Security Act (the "CARES Act").

Loss on extinguishment of debt

Loss on extinguishment of debt. Loss on extinguishment of debt was incurred in connection with the repayment of outstanding debt under our Prior Credit Agreement.

Benefit from income taxes

Benefit from income taxes. The income tax benefit resulted from pre-tax book income multiplied by statutory tax rate, increased by non-deductible expenses relating to stock-based compensation and offset by R&D credits, favorable change in state tax rates, and deductible transaction costs.

Results of Operations

The following table sets forth our results of operations for the periods presented. For a comparison of our results of operations for the fiscal year ended December 31, 2021 to the fiscal year ended December 31, 2020, refer to the section entitled “Management’s Discussion and Analysis of Financial Condition and Results of Operations” included in our Annual Report on Form 10-K, filed with the Securities and Exchange Commission on March 3, 2022.

The following table sets forth our consolidated operations for the periods indicated:

<i>(in thousands except percentages)</i>	Years Ended December 31,		
	2022	2021	2020
Revenue	\$ 408,348	\$ 323,513	\$ 240,633
Operating expenses:			
Cost of revenue (excluding depreciation and amortization below)	75,755	54,572	40,506
Sales and marketing	106,286	86,412	65,762
Technology and development	76,351	67,019	48,990
General and administrative	79,654	78,989	32,911
Depreciation and amortization	50,396	62,286	65,708
Facility exit costs	—	6,600	—
Foreign exchange loss, net ⁽¹⁾	4,749	645	636
Total operating expenses	393,191	356,523	254,513
Operating income (loss)	15,157	(33,010)	(13,880)
Interest expense, net	(9,053)	(19,244)	(31,570)
Employee retention tax credit	6,981	—	—
Loss on extinguishment of debt	—	(3,721)	—
Net income (loss) before benefit from income taxes	13,085	(55,975)	(45,450)
Benefit from income taxes	2,288	3,538	13,076
Net income (loss)	\$ 15,373	\$ (52,437)	\$ (32,374)
Net income (loss) margin	4 %	(16)%	(13)%

⁽¹⁾ Prior period amounts have been reclassified to conform to current period presentation.

The following table sets forth our consolidated operations data expressed as a percentage of total revenue for the periods indicated:

	Years Ended December 31,		
	2022	2021	2020
Revenue	100 %	100 %	100 %
Operating expenses:			
Cost of revenue (excluding depreciation and amortization below)	19 %	17 %	17 %
Sales and marketing	26 %	27 %	27 %
Technology and development	19 %	21 %	20 %
General and administrative	20 %	24 %	14 %
Depreciation and amortization	12 %	19 %	27 %
Facility exit costs	— %	2 %	— %
Foreign exchange loss, net ⁽¹⁾	1 %	— %	— %
Total operating expenses	96 %	110 %	106 %
Operating income (loss)	4 %	(10)%	(6)%
Interest expense, net	(2)%	(6)%	(13)%
Employee retention tax credit	2 %	— %	— %
Loss on extinguishment of debt	— %	(1)%	— %
Net income (loss) before benefit from income taxes	3 %	(17)%	(18)%
Benefit from income taxes	1 %	1 %	5 %
Net income (loss)	4 %	(16)%	(13)%

⁽¹⁾ Prior period amounts have been reclassified to conform to current period presentation.

Comparison of the Year Ended December 31, 2022 and 2021

(in thousands except percentages)	Year Ended December 31,			
	2022	2021	\$ change	% change
Revenue	\$ 408,348	\$ 323,513	\$ 84,835	26 %
Operating expenses:				
Cost of revenue (excluding depreciation and amortization below)	75,755	54,572	21,183	39 %
Sales and marketing	106,286	86,412	19,874	23 %
Technology and development	76,351	67,019	9,332	14 %
General and administrative	79,654	78,989	665	1 %
Depreciation and amortization	50,396	62,286	(11,890)	(19)%
Facility exit costs	—	6,600	(6,600)	(100)%
Foreign exchange loss, net ⁽¹⁾	4,749	645	4,104	636 %
Total operating expenses	393,191	356,523	36,668	10 %
Operating income (loss)	15,157	(33,010)	48,167	(146)%
Interest expense, net	(9,053)	(19,244)	10,191	(53)%
Employee retention tax credit	6,981	—	6,981	100 %
Loss on extinguishment of debt	—	(3,721)	3,721	(100)%
Net income (loss) before benefit from income taxes	13,085	(55,975)	69,060	(123)%
Benefit from income taxes	2,288	3,538	(1,250)	(35)%
Net income (loss)	\$ 15,373	\$ (52,437)	\$ 67,810	(129)%

⁽¹⁾ Prior period amounts have been reclassified to conform to current period presentation.

Revenue

Total revenue increased by \$84.8 million, or 26%, for the year ended December 31, 2022 compared to the year ended December 31, 2021.

	Year Ended December 31,			
	2022	2021	\$ Change	% Change
Programmatic revenue	\$ 190,608	\$ 134,432	\$ 56,176	42 %
Advertiser direct revenue	154,929	146,259	8,670	6 %
Supply side revenue	62,811	42,822	19,989	47 %
	\$ 408,348	\$ 323,513	\$ 84,835	26 %

Total revenue increased for the year ended December 31, 2022 compared to the year ended December 31, 2021, primarily due to a significant increase in our programmatic revenue of \$56.2 million, or 42%, attributable to growth in volume of impressions of 20% and an increase of 18% in average CPMs. The increase in average CPMs was attributable to significant growth of our Context Control solution. Revenue from our advertiser direct customers increased \$8.7 million, or 6%, reflecting growth in volume of impressions of 8% as well as increased growth from our customer base. Revenue from our supply side customers increased \$20.0 million, or 47%, primarily due to the acquisition of Publica.

Operating expenses

Cost of Revenue. Cost of revenue increased by \$21.2 million, or 39%, for the year ended December 31, 2022 compared to the year ended December 31, 2021. This increase was driven primarily due to an increase in hosting fees, an increase in revenue share to our DSP partners related to our growth in programmatic revenue, and an increase in stock-based compensation expenses of \$0.4 million.

Sales and marketing. Sales and marketing expenses increased by \$19.9 million, or 23%, for the year ended December 31, 2022 compared to the year ended December 31, 2021. This increase was primarily due to an increase in compensation expenses to support our growth, an increase in sales commissions due to higher revenue, an increase in restructuring severance costs of \$3.1 million, and increases in marketing and advertising expenses with the return to in-person events. These increases were partially offset by a decrease of \$2.6 million in stock-based compensation expense, which was higher in the year ended December 31, 2021 due to the modification of the Company's stock awards at the time of the IPO and the charge recognized for all vested options.

Technology and development. Technology and development expenses increased by \$9.3 million, or 14%, for the year ended December 31, 2022 compared to the year ended December 31, 2021. This increase was primarily due to higher compensation expenses, an increase of \$1.9 million related to restructuring severance costs and increased license fees utilized to support our growth. These increases were partially offset by decreases in professional fees, and \$1.3 million in stock-based compensation expense, which was higher in the year ended December 31, 2021 due to the modification of the Company's stock awards at the time of the IPO and the charge recognized for all vested options.

General and administrative. General and administrative expenses increased by \$0.7 million, or 1%, for the year ended December 31, 2022 compared to the year ended December 31, 2021. This increase was primarily attributable to increases in compensation expenses, professional fees incurred for audit, tax, legal and other services, increases in expenses for software licenses and computer maintenance and an increase of \$1.6 million for restructuring severance costs. These increases were partially offset by stock-based compensation expense of \$10.6 million which was higher in the year ended December 31, 2021 due to the modification of the Company's stock awards at the time of the IPO and the charge recognized for all vested options, a decrease in acquisition costs, and a decrease in facilities expenses due to the sublease of the facility previously used as our New York corporate headquarters.

Depreciation and amortization. Depreciation and amortization expenses decreased by \$11.9 million, or 19%, for the year ended December 31, 2022 compared to the year ended December 31, 2021. This decrease results from certain assets being fully amortized and use of the accelerated method to amortize customer related intangible assets. These decreases were partially offset by an increase in amortization expense related to capitalization of internal-use software.

Facility exit costs. Facility exit costs decreased by \$6.6 million, or 100%, for the year ended December 31, 2022 compared to the year ended December 31, 2021. The costs were incurred in connection with the exit of the New York office that served as our corporate headquarters until December 2021, partially offset by sublease income to be received in future periods.

Foreign exchange loss, net. Foreign exchange loss, net increased \$4.1 million, or 636% for the year ended December 31, 2022 as compared to the year ended December 31, 2021. The loss results from fluctuations primarily attributable to the British Pound and Euro currency movements relative to the U.S. Dollar.

Interest expense, net

Interest expense, net. Interest expense decreased by \$10.2 million, or 53%, for the year ended December 31, 2022 compared to the year ended December 31, 2021, primarily attributable to decreased interest expense due to partial repayment of our long-term debt of \$120.0 million, net and a reduction in interest rates as a result of refinancing our debt in 2021.

Employee retention tax credit

Employee retention tax credit. Employee retention tax credit was \$7.0 million for the year ended December 31, 2022 compared to no employee retention tax credit for the year ended December 31, 2021. The employee retention tax credits were filed pursuant to the CARES Act.

Loss on extinguishment of debt

Loss on extinguishment of debt. Loss on extinguishment of debt decreased by \$3.7 million, or 100%, for the year ended December 31, 2022 compared to the year ended December 31, 2021. The loss was incurred in connection with the repayment of outstanding debt under our Prior Credit Agreement in the year ended December 31, 2021.

Benefit from income taxes

Benefit from income taxes. Benefit from income taxes decreased by \$1.3 million, or 35%, for the year ended December 31, 2022 compared to the year ended December 31, 2021. The benefit from income taxes decreased primarily due to non-deductible expenses relating to stock-based compensation that are included in the current period offset by R&D credit, favorable change in state tax rates, and deductions of prior year transaction costs.

Non-GAAP Financial Measures

We use supplemental measures of our performance, which are derived from our consolidated financial information, but which are not presented in our consolidated financial statements prepared in accordance with GAAP. Adjusted EBITDA is the primary financial performance measure used by management to evaluate our business and monitor ongoing results of operations. We define adjusted EBITDA as loss before depreciation and amortization, stock-based compensation, interest expense, benefit from income taxes, acquisition, restructuring and integration costs, IPO readiness costs, foreign exchange gains and losses, and other one-time, non-recurring costs. Adjusted EBITDA margin represents the adjusted EBITDA for the applicable period divided by the revenue for that period presented in accordance with GAAP.

We use non-GAAP financial measures to supplement financial information presented on a GAAP basis. We believe that excluding certain items from our GAAP results allows management to better understand our consolidated financial performance from period to period and better project our future consolidated financial performance as forecasts are developed at a level of detail different from that used to prepare GAAP-based financial measures. Moreover, we believe these non-GAAP financial measures provide our shareholders with useful information to help them evaluate our operating results by facilitating an enhanced understanding of our operating performance and enabling them to make more meaningful period-to-period comparisons. Although we believe these measures are useful to investors and analysts for the same reasons they are useful to management, these measures are not a substitute for, or superior to, U.S. GAAP financial measures or disclosures and should be read only in conjunction with financial information presented on a GAAP basis. Our non-GAAP financial measures may not be comparable to similarly titled measures of other companies. Other companies, including companies in our industry, may define or calculate non-GAAP financial measures differently than we do, limiting the usefulness of those measures for comparative purposes.

We encourage you to review the reconciliations in conjunction with the presentation of the non GAAP financial measures for each of the periods presented. In future fiscal periods, we may exclude such items and may incur income and expenses similar to these excluded items.

Adjusted EBITDA

(in thousands except percentages)	Year Ended December 31,		
	2022	2021	2020
Net income (loss)	\$ 15,373	\$ (52,437)	\$ (32,374)
Depreciation and amortization	50,396	62,286	65,708
Stock-based compensation	44,752	58,766	—
Interest expense, net	9,053	19,244	31,570
Benefit from income taxes	(2,288)	(3,538)	(13,076)
Restructuring and severance costs	10,321	4,249	3,527
Acquisition and integration costs	97	3,092	—
Foreign exchange loss, net	4,798	—	—
Employee retention tax credit	(6,981)	—	—
Facility exit costs	—	6,600	—
Debt extinguishment costs	—	3,721	—
IPO readiness costs	—	1,094	1,041
Asset impairments and other costs	1,058	223	—
Adjusted EBITDA	\$ 126,579	\$ 103,300	\$ 56,396
Revenue	\$ 408,348	\$ 323,513	\$ 240,633
Net income (loss) margin	4 %	(16)%	(13)%
Adjusted EBITDA margin	31 %	32 %	23 %

Liquidity and Capital Resources

General

As of December 31, 2022, our principal sources of liquidity were cash and cash equivalents totaling \$86.9 million, which was held for working capital purposes, as well as the available balance of our Revolver, defined below.

Our principal commitments consist of obligations under operating leases for office space, our purchase commitments related to hosting and data services and repayments of long-term debt. We lease office space under operating leases, which expire on various dates through May 2027 and the total noncancelable payments under these leases were \$34.4 million as of December 31, 2022, \$7.8 million of which will be paid within the next 12 months and \$26.6 million thereafter. Total noncancelable rentals under subleases were \$12.2 million as of December 31, 2022, \$2.8 million will be received in the next 12 months and \$9.4 million thereafter. Total noncancelable purchase commitments related to hosting services as of December 31, 2022 were \$104.4 million for periods through 2026, of which \$25.5 million are committed for the next 12 months and \$78.9 million thereafter. As of December 31, 2022, we had no short-term debt. Information about our long-term debt is provided below.

We have financed our operations primarily through cash on our balance sheet and debt financing. We believe our existing cash and cash equivalents, our Revolver (as defined below) and cash provided by operations will continue to be sufficient to meet our working capital and capital expenditure and cash needs for the next twelve months and beyond. We also expect our operating cash flows to improve as we increase our operational efficiency and experience economies of scale. Our future capital requirements will depend on many factors including our growth rate, the timing and extent of spending to support development efforts, the expansion of sales and marketing activities, the introduction of new and enhanced products and services offerings, and the continuing market acceptance of our products. In the future, we may enter into arrangements to acquire or invest in complementary businesses, services and technologies, including intellectual property rights.

We may be required to seek additional equity or debt financing. In the event that additional financing is required from outside sources, we may not be able to raise it on terms acceptable to us or at all. If we are unable to raise additional capital or generate cash flows necessary to expand our operations and invest in new technologies, it could reduce our ability to compete successfully and harm our results of operations.

Some of our customers pay in advance for subscriptions, a portion of which is recorded as deferred revenue. Deferred revenue consists of the unearned portion of billed fees, which is recognized as revenue in accordance with our revenue recognition policy. As of December 31, 2022, we had deferred revenue of \$0.1 million, all of which was recorded as a current liability and is expected to be recorded as revenue in the next twelve months, provided all other revenue recognition criteria have been met.

Credit Facilities

On July 19, 2018, we entered into a Credit Agreement (the "Prior Credit Agreement") with a syndicate of lenders, comprised of the \$325.0 million (the "Term Loan") and the \$25.0 million, with a maturity date of July 19, 2024 and July 19, 2023, respectively. Pursuant to the Incremental Facility Assumption Agreement No. 1, dated as of November 19, 2019, the Term Loan was increased to \$345.0 million. As explained below, on September 29, 2021, the Company repaid the outstanding balances and terminated the Prior Credit Agreement.

In addition to the cash pay interest, the Prior Credit Agreement included Paid in Kind ("PIK") interest at a rate of 1.25% per annum. All PIK interest due was paid and terminated with the Prior Credit Agreement by capitalizing such interest and adding such applicable PIK interest to the principal amount of the then outstanding Term Loan.

On September 29, 2021, we entered into a new credit agreement with various lenders (the "Credit Agreement"), which provides for an initial \$300.0 million in commitments for revolving credit loans (the "Revolver"), which amount may be increased or decreased under specific circumstances, with a \$30.0 million letter of credit sublimit and a \$100.0 million alternative currency sublimit. In addition, the Credit Agreement provides for the ability to request incremental term loan facilities, in a minimum amount of \$5.0 million for each facility. Borrowings under the Credit Agreement may be used for working capital and other general corporate purposes, including for acquisitions permitted under the Credit Agreement.

The interest rates applicable to the Revolver under the Credit Agreement are, at our option, either (i) in the case of U.S. dollar loans, (x) a base rate, which is equal to the greater of (a) the Prime Rate, (b) the Federal Funds Effective Rate plus 0.5%, and (c) the Adjusted LIBOR (subject to a floor of 0.0%) for a one month Interest Period (each term as defined in the Credit Agreement) plus 1%, or (y) the Adjusted LIBOR (subject to a floor of 0.0%) equal to the LIBOR (as defined in the Credit Agreement) for the applicable Interest Period multiplied by the Statutory Reserve Rate (each term as defined in the Credit Agreement) or (ii) in the case of RFR Loans (as defined in the Credit Agreement) denominated in sterling or euro, (x) the applicable RFR (as defined in the Credit Agreement) or (y) the applicable Term RFR (as defined in the Credit Agreement), plus in the case of each of clauses (i) and (ii), the Applicable Rate (as defined in the Credit Agreement). The Applicable Rate (i) for base rate loans range from 0.75% to 1.50% per annum, (ii) for LIBOR loans range from 1.75% to 2.50% per annum, (iii) for RFR Loans denominated in sterling range from 1.7826% to 2.5326%, and (iv) for RFR Loans denominated in euro range from 1.7965% to 2.5456%, in each case, based on the Senior Secured Net Leverage Ratio (as defined in the Credit Agreement). Base rate borrowings may only be made in dollars. A commitment fee during the term of the Credit Agreement ranging from 0.20% to 0.35% per annum of the average daily undrawn portion of the revolving commitments based on the Senior Secured Net Leverage Ratio (as defined in the Credit Agreement). The interest rate on December 31, 2022 was 6.2%.

The Credit Agreement contains covenants requiring certain financial information to be submitted quarterly and annually. In addition, we are also required to comply with certain financial covenants such as maintaining a Net Leverage Ratio (as defined in the Credit Agreement) of 3.50:1.00 or lower and maintaining a minimum Interest Coverage Ratio (as defined in the Credit Agreement) of 2.50 to 1.00. As of December 31, 2022, the Company was in compliance with all covenants contained in the Credit Agreement. Based upon current facts and

circumstances, we believe existing cash coupled with the cash flows generated from operations will be sufficient to meet our cash needs and comply with covenants.

Cash Flows

The table below presents a summary of our consolidated cash flows from operating, investing and financing activities for the periods indicated.

	Year Ended December 31,		
	2022	2021	2020
Net cash provided by operating activities	\$ 72,467	\$ 63,595	\$ 33,937
Net cash used in investing activities	(18,292)	(200,092)	(9,662)
Net cash provided by (used in) financing activities	(37,471)	160,190	(1,696)
Net increase in cash and cash equivalents, and restricted cash	16,704	23,693	22,579
Effect of exchange rate changes on cash and cash equivalents, and restricted cash	(3,111)	(2,336)	1,772
Cash, cash equivalents, and restricted cash, at beginning of year	76,078	54,721	30,370
Cash, cash equivalents, and restricted cash, at end of year	\$ 89,671	\$ 76,078	\$ 54,721

Operating Activities

For the year ended December 31, 2022, net cash provided by operating activities was \$72.5 million, resulting from a net income of \$15.4 million partially offset by adjustments for non-cash expenses of depreciation and amortization of \$50.4 million, stock-based compensation of \$44.8 million, foreign exchange losses of \$5.2 million, amortization of debt issuance costs of \$0.5 million, bad debt expense of \$1.8 million, and a loss on disposal of assets of \$1.0 million, partially offset by Employee retention tax credit of \$7.0 million, a decrease in working capital of \$30.7 million, and a deferred tax provision of \$8.9 million.

For the year ended December 31, 2021, net cash provided by operating activities was \$63.6 million, resulting from a net loss of \$52.4 million partially offset by adjustments for non-cash expenses of depreciation and amortization of \$62.3 million, stock-based compensation of \$58.8 million, a loss on extinguishment of debt of \$3.7 million, facility exit costs of \$6.5 million, amortization of debt issuance costs of \$1.1 million, bad debt expense of \$3.0 million, non-cash interest expense of \$0.4 million, and a loss on disposal of assets of \$0.2 million, partially offset by a decrease in working capital of \$10.4 million, and a deferred tax provision of \$9.7 million.

Investing Activities

Cash used in investing activities was \$18.3 million during the year ended December 31, 2022, reflecting payment for acquisitions of \$1.6 million, capitalized costs relating to our internal use software of \$14.7 million and purchase of property and equipment of \$2.0 million.

Cash used in investing activities was \$200.1 million during the year ended December 31, 2021, reflecting payment of \$166.2 million for the acquisition of Publica, net of acquired cash, payment for the acquisition of Context, net of acquired cash of \$20.2 million, capitalized costs relating to our internal use software of \$12.7 million and purchase of property and equipment of \$1.0 million.

Financing Activities

Cash used in financing activities was \$37.5 million for the year ended December 31, 2022, reflecting cash paid for share repurchases of \$23.7 million, a repayment of outstanding short-term debt of \$1.8 million, repayment of long-term debt of \$35.0 million, offset by proceeds from issuance of debt of \$15.0 million, proceeds of \$7.2 million in stock options exercised and cash received from the ESPP of \$0.8 million.

Cash provided by financing activities was \$160.2 million for the year ended December 31, 2021, reflecting proceeds from the IPO, net of underwriting discounts and commissions of \$281.6 million, issuance of new debt of \$245.0 million, and \$1.1 million in stock options exercised. This was offset by a repayment of outstanding debt of \$356.4 million, \$1.2 million in common stock repurchases, \$7.2 million in deferred offering costs, payments for debt issuance costs of \$2.3 million and \$0.3 million in principal payment on our capital leases.

Impact of Inflation

While inflation may impact our revenues and costs of revenues, we believe the effects of inflation, if any, on our results of operations and financial condition have been immaterial during the year ended December 31, 2022. However, there can be no assurance that our results of operations and financial condition will not be materially impacted by inflation in the future, including by heightened levels of inflation experienced globally as a consequence of various macroeconomic factors, including the impacts of the COVID-19 pandemic.

Indemnification Agreements

In the ordinary course of business, we enter into agreements of varying scope and terms pursuant to which we agree to indemnify customers, including, but not limited to, losses arising out of the breach of such agreements, services to be provided by us or from intellectual property infringement claims made by third parties. In addition, we have entered into indemnification agreements with our directors and certain officers and employees that will require us, among other things, to indemnify them against certain liabilities that may arise by reason of their status or service as directors, officers or employees. No demands have been made upon us to provide indemnification under such agreements and there are no claims that we are aware of that could have a material effect on our Consolidated Balance Sheets, Consolidated Statements of Operations and Comprehensive Income (Loss), or Consolidated Statements of Cash Flows.

Critical Accounting Estimates

The discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements, which have been prepared in accordance with GAAP. The preparation of these financial statements requires management to make estimates and judgments that affect the reported amounts of assets and liabilities, revenue and expenses and related disclosures of contingent assets and liabilities at the date of our financial statements. Actual results may differ from these estimates under different assumptions or conditions, impacting our reported results of operations and financial condition.

Certain accounting estimates involve significant judgments and assumptions by management, which have a material impact on the carrying value of assets and liabilities and the recognition of income and expenses. Management considers these accounting policies to be critical accounting policies. The estimates and assumptions used by management are based on historical experience and other factors, which are believed to be reasonable under the circumstances. The significant accounting policies which we believe are the most critical to aid in fully understanding and evaluating our reported financial results are described below. Refer to Note 2 "Basis of presentation and summary of significant accounting policies" to the consolidated financial statements included elsewhere in this Annual Report for more detailed information regarding our critical accounting policies.

Revenue Recognition

We adopted the new revenue recognition standard Accounting Standards Codification (ASC 606) effective January 1, 2019 using the modified retrospective method for all contracts not completed as of the date of adoption. The core principle of ASC 606 is to recognize revenue when control of promised goods or services is transferred to customers in an amount that reflects the consideration that is expected to be received for those goods and services. Based on the terms of our contracts with customers and consistent with prior practice, we recognize revenue upon invoicing for a large majority of our contracts. Additionally, the performance obligations identified are consistent with prior years. As such, the adoption did not have a material impact on our financial statements. Refer to Note 2 "Basis of presentation and summary of significant accounting policies—(m) Revenue" to the consolidated financial statements included elsewhere in this Annual Report for additional information regarding our revenue recognition policies under the new standard.

We derive revenue primarily from advertisers and programmatic services offered through a demand side platform delivered to customers across the digital advertising platform, which is our performance obligation. Fees associated with our contracts include impression-based fees driven by impression volume and CPM. The solutions are designed to serve both the buy-side and the sell-side of digital ad transactions.

The adoption of ASC 606 in 2019 led us to evaluate all contracts not completed as of January 1, 2019. Part of that assessment is to calculate the cumulative effect of adopting the new revenue recognition standard. A majority of our contracts are usage based or have commitments that refresh quarterly and monthly. We have a small population of contracts for which pricing is variable through tiered pricing arrangements, or include annual base fees that do not coincide with the calendar year, requiring an estimate of the transaction price attributable to each year. We calculated the transaction price related to these contracts to determine the cumulative effect of adoption as of January 1, 2019, and recorded the adjustment, net of tax, to retained earnings and deferred revenue.

We evaluate arrangements with our customers where the customer purchases our services through a demand side platform to determine if such revenue should be reported on a gross or net basis. In these arrangements, the demand side platform collects the fee on our behalf for the purchase of advertising inventory on an exchange. We are primarily responsible for providing these services directly to the customer and have latitude in establishing the sales price with the customers. As a result, we record revenue for the gross amounts paid by the customers for these services and record the amounts retained by the demand side platforms as a cost of revenue.

Goodwill, Intangible Assets and Long-Lived Assets

We record goodwill as the excess of purchase price over the fair value of the net tangible and identifiable intangible assets acquired. We evaluate goodwill, at a minimum, on an annual basis in the fourth quarter, and whenever events or changes in circumstances suggest that the carrying amount may not be recoverable. Impairment of goodwill is tested at the reporting unit level by comparing the reporting unit's carrying amount, including goodwill, to its fair value. For purposes of this analysis, we consider the Company to be a single reporting unit. We will first perform a qualitative analysis ("Step Zero") to determine if the existence of events or circumstances would lead to a conclusion that it is more likely than not that the fair value of the reporting unit is less than the carrying value. If after this assessment it is determined that it is more likely than not that the fair value is less than the carrying value, then a quantitative goodwill impairment analysis is performed which is referred to as "Step 1". Depending upon the results of that analysis, if the carrying amount of the reporting unit exceeds the fair value of the reporting unit, goodwill may be written down and impairment expense is recorded in the Consolidated Statements of Operations and Comprehensive Income (Loss). During the fourth quarter of 2022, we conducted a Step Zero analysis and concluded that there were no impairment indicators. Goodwill is tested annually for impairment as well as whenever events or circumstances change that would make it more likely than not that an impairment may have occurred. There is inherent subjectivity involved in estimating future cash flows, which can have a material impact on the amount of any potential impairment. Changes in estimates of future cash flows could result in a write-down of the asset in a future period.

Our intangible assets consist of developed technology, customer relationships, favorable leases, and trademarks. Intangible assets are amortized on a straight-line basis or using an accelerated method over their estimated useful lives. Intangible assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of the assets may not be recoverable. The fair value of identifiable intangible assets is based on significant judgments and estimates made by management. Such estimates are based on valuation techniques, which require forecasting of future cash flows and developing other assumptions. These estimates and assumptions are based on historical experience and information obtained from the management of the acquired companies, and also include, but are not limited to, future expected cash flows earned from the product-related technology and discount rates applied in determining the present value of those cash flows. Unanticipated events and circumstances may occur that could affect the accuracy or validity of such assumptions, estimates or actual results.

All long-lived assets are subject to review for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability is assessed based on the future cash flows expected to result from the use of the asset and its eventual disposition. If the sum of the undiscounted cash flows is less than the carrying amount of the asset, an impairment loss is recognized. Any impairment loss, if indicated, is measured as the amount by which the carrying amount of the asset exceeds its estimated fair value and is recognized as a reduction in the carrying amount of the asset.

As of December 31, 2022, there were no events or changes in circumstances to indicate that the carrying amount of the assets may not be recoverable.

Business Combinations

Upon acquisition of an entity or group of assets, we determine whether the transaction is a business combination, which is accounted for using the acquisition method of accounting. Under the acquisition method, once control of a business is established, the assets acquired, and liabilities assumed, including amounts attributed to noncontrolling interests, are recorded at fair value. We use our best estimate and assumptions to assign fair value to the tangible and intangible assets acquired and liabilities assumed at the acquisition date. One of the most significant estimates relates to the determination of the fair value of these assets and liabilities. The determination of the fair values is based on estimates and judgments made by us. We estimate fair value based upon assumptions we believe to be reasonable, but which are inherently uncertain and unpredictable. Additionally, uncertain tax positions and tax-related valuation allowances are recorded in connection with a business combination as of the acquisition date. Measurement period adjustments are reflected at the time identified, up through the conclusion of the measurement period, which is the time at which all information for determination of the values of assets acquired and liabilities assumed is received and is not to exceed one year from the acquisition date. We may record adjustments to the fair value of these tangible and intangible assets acquired and liabilities assumed, with the corresponding offset to goodwill. If outside of the measurement period, any subsequent adjustments are recorded in our statement of operations.

Equity-Based Compensation

Equity-based compensation is measured at the grant date based on the fair value of the award and is recognized as expense over the requisite service period, which is generally the vesting period. We account for forfeitures as they occur.

The fair value of each option grant is estimated on the date of grant using the modified Black-Scholes pricing model and Monte Carlo simulation. We estimated its future stock price volatility based upon observed option-implied volatilities for a group of peer companies. Management believes this is the best estimate of the expected volatility over the weighted-average expected term of its option grants. The risk-free interest rate is based on the implied yield currently available on U.S. treasury issues with terms approximately equal to the expected term of the option. We currently have no history or expectation of paying cash dividends on common stock. We use the simplified method to calculate the expected term for its options.

For awards that include performance conditions, we recognize the associated expense when the performance is considered to be probable. For awards that contain market conditions (i.e., achievement of a specified equity return or stock price), we value such awards on the date of grant using a Monte Carlo simulation model.

We have granted time-based service options under our 2018 Unit Option Plan (the "2018 Plan"). The time-based options vest over four years with 25% vesting after 12 months and an additional 6.25% vesting at the end of each successive quarter thereafter. In connection with the IPO, the 2018 Plan was amended and restated to reflect the Company's conversion to a C-Corp. In addition, the repurchase feature included in the 2018 Plan was removed. As a result of this adjustment, a grant date as of the closing of our IPO was established and we recognized \$18.00 as the grant date fair value of these awards, the per share price to the public in the IPO. Accordingly, in the period ended June 30, 2021, we recognized \$38,148 of compensation expense upon the Company's IPO relating to the time-based service options.

Concurrent with the effectiveness of the Company's IPO, the return target options were also modified. Vesting of the new return target options was based upon a sale of shares by Vista following the IPO resulting in Vista realizing a cash return on its investment equaling or exceeding \$1.17 billion. As the return multiple and vesting conditions associated with the return target options were also modified, we fair valued the options using a Monte Carlo simulation model which resulted in a fair value of \$36,395 on the modification date. As of December 31, 2022, the condition relating to Vista's cash return was not deemed probable and therefore, no stock-based compensation expense was recognized relating to the return target options.

In addition to the above awards, we also issued Top-Up Grants to certain executives and RSUs to employees which are recognized over the vesting period. In 2022, we issued market stock unit ("MSU") awards to certain executives.

Income Taxes

We are subject to income taxes in the U.S. and numerous foreign jurisdictions. We account for income taxes using an asset and liability approach, which requires estimates of taxes payable or refunds for the current period and estimates of deferred income tax assets and liabilities for the anticipated future tax consequences attributable to differences between the carrying amounts of assets and liabilities for financial reporting purposes and the corresponding amounts used for income tax purposes. Current and deferred income tax assets and liabilities are based on provisions of the enacted income tax laws and are measured using the enacted income tax rates and laws that are expected to be in effect when the future tax events are expected to reverse. The effects of future changes in income tax laws or rates are not anticipated. The income tax provision is comprised of the current income tax expense and the change in deferred income tax assets and liabilities.

The portion of any deferred tax asset for which it is more likely than not that a tax benefit will not be realized is offset by recording a valuation allowance. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible.

The tax effects of an uncertain tax position ("UTP") taken or expected to be taken in income tax returns are recognized only if it is "more-likely-than-not" to be sustained on examination by the taxing authorities, based on its technical merits as of the reporting date. The tax benefits recognized in the consolidated financial statements from such a position are measured based on the largest benefit that has a greater than a 50% likelihood of being realized upon ultimate settlement. We recognize estimated interest and penalties related to UTPs in income tax expense.

We recognize the resolution of an UTP in the period when it is effectively settled. Previously recognized tax positions are derecognized in the first period in which it is no longer more likely than not that the tax position would be sustained upon examination.

We evaluated all potential uncertain tax positions and have established a UTP on the Research and Development Tax Credit and certain state income tax positions.

Recent Accounting Pronouncements

For a description of our recently adopted accounting pronouncements and recently issued accounting standards not yet adopted, see Note 2 "Basis of presentation and summary of significant accounting policies—(v) Recently adopted accounting pronouncements" to the consolidated financial statements included elsewhere in this Annual Report.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Market risk represents the risk of loss that may impact our financial position due to adverse changes in financial market prices and rates. Our market risk exposure is primarily a result of exposure due to potential changes in inflation or interest rates. We do not hold financial instruments for trading purposes.

Foreign Currency Exchange Risk

The functional currencies of our foreign subsidiaries are the respective local currencies. Most of our sales are denominated in U.S. dollars, and therefore our revenue is not currently subject to significant foreign currency risk. Our operating expenses are denominated in the currencies of the countries in which our operations are located, which are primarily in the United States, U.K., France, Germany, Italy, and Singapore. Our consolidated results of operations and cash flows are, therefore, subject to fluctuations due to changes in foreign currency exchange rates and may be adversely affected in the future due to changes in foreign exchange rates. To date, we have not entered into any hedging arrangements with respect to foreign currency risk or other derivative financial instruments. During the year ended December 31, 2022, a hypothetical 10% increase of the exchange rate between the U.S. Dollar and foreign currencies applicable to our business, with the U.S. Dollar strengthening, would have resulted in additional foreign exchange losses of approximately \$5.5 million.

Interest Rate Risk

Interest rate risk is highly sensitive due to many factors, including E.U. and U.S. monetary and tax policies, U.S. and international economic factors and other factors beyond our control. The interest rates applicable to borrowings under the Revolver under the Credit Agreement are, at the Borrower's option, either (i) in the case of U.S. dollar loans, (x) a base rate, which is equal to the greater of (a) the Prime Rate, (b) the Federal Funds Effective Rate plus 0.5% and (c) the Adjusted LIBO Rate (subject to a floor of 0.0%) for a one month Interest Period (each term as defined in the Credit Agreement) plus 1%, or (y) the Adjusted LIBO Rate (subject to a floor of 0.0%) equal to the LIBO Rate (as defined in the Credit Agreement) for the applicable Interest Period multiplied by the Statutory Reserve Rate (each term as defined in the Credit Agreement) or (ii) in the case of RFR Loans (as defined in the Credit Agreement) denominated in Sterling or Euro, (x) the applicable RFR (as defined in the Credit Agreement) or (y) the applicable Term RFR (as defined in the Credit Agreement), plus in the case of each of clauses (i) and (ii), the Applicable Rate (as defined in the 2021 Credit Agreement). The Applicable Rate (i) for base rate loans range from 0.75% to 1.50% per annum, (ii) for LIBO Rate loans range from 1.75% to 2.50% per annum, (iii) for RFR Loans denominated in Sterling range from 1.7826% to 2.5326% and (iv) for RFR Loans denominated in Euro range from 1.7965% to 2.5456% , in each case, based on the Senior Secured Net Leverage Ratio (as defined in the Credit Agreement). Base rate borrowings may only be made in dollars. In addition, we will pay a commitment fee during the term of the Credit Agreement ranging from 0.20% to 0.35% per annum of the average daily undrawn portion of the revolving commitments based on the Senior Secured Net Leverage Ratio (as defined in the Credit Agreement).

In response to macroeconomic factors, the U.S. Federal Reserve may further raise the federal funds rate, which may result in downstream impacts to global exchange rates and further adverse impacts to our reported results. On December 31, 2022, we had total outstanding debt of \$225.0 million under our Revolver. Rising interest rates have also resulted in an increase in our interest rate to 6.2% on December 31, 2022 compared to 2.2% at December 31, 2021. Based on these amounts outstanding, a 100-basis point increase or decrease in market interest rates over a twelve-month period would result in an increase to interest expense of \$2.3 million or a benefit of \$2.3 million, respectively.

Item 8. Financial Statements and Supplementary Data

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Integral Ad Science Holding Corp.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Integral Ad Science Holding Corp. and its subsidiaries (the “Company”) as of December 31, 2022 and 2021, and the related consolidated statements of operations and comprehensive income (loss), of changes in stockholders’/members equity and of cash flows for each of the three years in the period ended December 31, 2022, including the related notes (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022 in conformity with accounting principles generally accepted in the United States of America.

Change in Accounting Principle

As discussed in Note 2 to the consolidated financial statements, the Company changed the manner in which it accounts for leases in 2022.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits of these consolidated financial statements in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company’s internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ PricewaterhouseCoopers LLP
New York, New York
March 2, 2023

We have served as the Company’s auditor since 2011.

INTEGRAL AD SCIENCE HOLDING CORP.
CONSOLIDATED BALANCE SHEETS

(IN THOUSANDS, EXCEPT SHARE DATA)	December 31,	
	2022	2021
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 86,877	\$ 73,210
Restricted cash	45	70
Accounts receivable, net	67,884	53,028
Unbilled receivables	41,550	36,210
Prepaid expenses and other current assets	24,761	7,632
Due from related party	29	15
Total current assets	221,146	170,165
Property and equipment, net	2,412	1,413
Internal use software, net	23,642	18,100
Intangible assets, net	217,558	258,316
Goodwill	674,094	676,513
Operating lease right-of-use assets, net	22,787	—
Deferred tax asset, net	2,020	887
Other long-term assets	5,024	4,143
Total assets	\$ 1,168,683	\$ 1,129,537
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable and accrued expenses	\$ 60,799	\$ 56,257
Operating lease liabilities, current	6,749	—
Due to related party	122	74
Deferred revenue	99	160
Total current liabilities	67,769	56,491
Accrued rent	—	854
Deferred tax liability, net	45,495	53,523
Long-term debt	223,262	242,798
Operating lease liabilities, non-current	22,875	—
Other long-term liabilities	1,066	8,681
Total liabilities	360,467	362,347
Commitments and Contingencies (Note 15)		
Stockholders' Equity		
Preferred Stock, \$0.001 par value, 50,000,000 shares authorized at December 31, 2022; 0 shares issued and outstanding at December 31, 2022 and 2021	—	—
Common Stock, \$0.001 par value, 500,000,000 shares authorized at December 31, 2022, 153,990,128 and 154,398,495 shares issued and outstanding at December 31, 2022 and 2021, respectively	154	154
Additional paid-in-capital ⁽¹⁾	810,186	781,951
Accumulated other comprehensive loss	(2,899)	(315)
Accumulated earnings (deficit) ⁽¹⁾	775	(14,600)
Total stockholders' equity	\$ 808,216	\$ 767,190
Total liabilities and stockholders' equity	\$ 1,168,683	\$ 1,129,537

⁽¹⁾ Balances prior to the Company's conversion to a Delaware corporation have been reclassified to additional paid-in capital to give effect to the corporate conversion described in Note 1.

See accompanying notes to the consolidated financial statements.

INTEGRAL AD SCIENCE HOLDING CORP.
CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME (LOSS)

(IN THOUSANDS, EXCEPT SHARE AND PER SHARE DATA)	Year ended December 31,		
	2022	2021	2020
Revenue	\$ 408,348	\$ 323,513	\$ 240,633
Operating expenses:			
Cost of revenue (excluding depreciation and amortization shown below)	75,755	54,572	40,506
Sales and marketing	106,286	86,412	65,762
Technology and development	76,351	67,019	48,990
General and administrative	79,654	78,989	32,911
Depreciation and amortization	50,396	62,286	65,708
Facility exit costs	—	6,600	—
Foreign exchange loss, net ⁽¹⁾	4,749	645	636
Total operating expenses	393,191	356,523	254,513
Operating income (loss)	15,157	(33,010)	(13,880)
Interest expense, net	(9,053)	(19,244)	(31,570)
Employee retention tax credit	6,981	—	—
Loss on extinguishment of debt	—	(3,721)	—
Net income (loss) before benefit from income taxes	13,085	(55,975)	(45,450)
Benefit from income taxes	2,288	\$ 3,538	\$ 13,076
Net income (loss)	\$ 15,373	\$ (52,437)	\$ (32,374)
Net income (loss) per share – basic and diluted ⁽²⁾	\$ 0.10	\$ (0.37)	\$ (0.24)
Weighted average shares outstanding:			
Basic	154,699,694	143,535,546	134,044,284
Diluted	157,258,083	143,535,546	134,044,284
Other comprehensive income (loss):			
Foreign currency translation adjustments	\$ (2,584)	\$ (4,838)	\$ 4,348
Total comprehensive income (loss)	\$ 12,789	\$ (57,275)	\$ (28,026)

⁽¹⁾ Prior period amounts have been reclassified to conform to current period presentation.

⁽²⁾ Amounts for periods prior to the Company's conversion to a Delaware corporation have been retrospectively adjusted to give effect to the corporate conversion described in Note 1.

See accompanying notes to the consolidated financial statements.

INTEGRAL AD SCIENCE HOLDING CORP.
CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS'/MEMBERS' EQUITY

(IN THOUSANDS, EXCEPT UNITS AND SHARES DATA)	Members' Interest		Common Stock		Additional paid-in capital	Accumulated other comprehensive income (loss)	Accumulated earnings (deficit)	Total members'/stockholders' equity
	Units ⁽¹⁾	Amount	Shares	Amount				
Balances at January 1, 2020	134,034,604	\$ 553,862	—	\$ —	\$ —	\$ 175	\$ (94,365)	\$ 459,672
Repurchase of units	(35,090)	(145)	—	—	—	—	(22)	(167)
Units vested	39,980	—	—	—	—	—	—	—
Foreign currency translation adjustment	—	—	—	—	—	4,348	—	4,348
Net loss	—	—	—	—	—	—	(32,374)	(32,374)
Balances at December 31, 2020	134,039,494	\$ 553,717	—	\$ —	\$ —	\$ 4,523	\$ (126,761)	\$ 431,479
Repurchase of units	(99,946)	(413)	—	—	—	—	(791)	(1,204)
Units vested	17,486	—	—	—	—	—	—	—
Option exercises	246,369	1,075	—	—	3,360	—	—	4,435
Foreign currency translation adjustment	—	—	—	—	—	(4,838)	—	(4,838)
Net loss prior to corporate conversion	—	—	—	—	—	—	(37,832)	(37,832)
Conversion to Delaware corporation (Note 1)	(134,203,403)	(554,379)	134,203,403	134	388,860	—	165,385	—
Rounding units/shares as a result of corporate conversion	—	—	(17)	—	—	—	—	—
Stock-based compensation	—	—	—	—	55,222	—	—	55,222
RSUs vested	—	—	26,931	—	150	—	—	150
Issuance of common stock in connection with initial public offering	—	—	16,821,330	17	274,340	—	—	274,357
Issuance of common stock for Publica acquisition	—	—	2,888,889	3	49,628	—	—	49,631
Issuance of common stock for Context acquisition	—	—	457,959	—	10,391	—	—	10,391
Net loss	—	—	—	—	—	—	(14,600)	(14,600)
Balances at December 31, 2021	—	\$ —	154,398,495	\$ 154	\$ 781,951	\$ (315)	\$ (14,600)	\$ 767,190
RSUs vested	—	—	1,084,966	1	—	—	—	1
Options exercises	—	—	1,586,728	2	7,153	—	—	7,155
Stock-based compensation	—	—	—	—	44,733	—	—	44,733
Foreign currency translation adjustment	—	—	—	—	—	(2,584)	—	(2,584)
Repurchase of common stock	—	—	(3,080,061)	(3)	(23,652)	—	—	(23,655)
Net income	—	—	—	—	—	—	15,373	15,373
Balances at December 31, 2022	—	\$ —	153,990,128	\$ 154	\$ 810,186	\$ (2,899)	\$ 775	\$ 808,216

⁽¹⁾ Amounts for periods prior to the Company's conversion to a Delaware corporation have been retrospectively adjusted to give effect to the corporate conversion described in Note 1.

See accompanying notes to the consolidated financial statements.

INTEGRAL AD SCIENCE HOLDING CORP.
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Year ended December 31,		
	2022	2021	2020
(IN THOUSANDS)			
Cash flows from operating activities:			
Net income (loss)	\$ 15,373	\$ (52,437)	\$ (32,374)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Depreciation and amortization	50,396	62,286	65,708
Stock-based compensation	44,752	58,766	—
Foreign exchange loss, net	5,233	—	—
Deferred tax benefit	(8,880)	(9,662)	(15,312)
Loss on extinguishment of debt	—	3,721	—
Facility exit costs	—	6,519	—
Amortization of debt issuance costs	464	1,136	1,365
Allowance for doubtful accounts	1,837	3,024	2,200
Non-cash interest expense	—	394	4,483
Employee retention tax credit	(6,981)	—	—
Write off of assets	974	218	(10)
Changes in operating assets and liabilities:			
Increase in accounts receivable	(18,581)	(9,095)	(4,426)
Increase in unbilled receivables	(5,830)	(8,504)	(3,910)
Increase (decrease) in prepaid expenses and other current assets	(10,641)	(3,617)	264
Increase in operating leases, net	(852)	—	—
Increase in other long-term assets	(1,057)	(614)	—
Increase in accounts payable and accrued expenses and other long-term liabilities	6,286	12,246	16,114
Increase in accrued rent	—	260	202
Decrease in deferred revenue	(88)	(976)	(367)
Increase (decrease) in due to/from related party	62	(70)	—
Net cash provided by operating activities	72,467	63,595	33,937
Cash flows from investing activities:			
Payment for acquisitions, net of acquired cash	(1,603)	(186,435)	—
Purchase of property and equipment	(2,016)	(955)	(638)
Acquisition and development of internal use software and other	(14,673)	(12,702)	(9,024)
Net cash used in investing activities	(18,292)	(200,092)	(9,662)
Cash flows from financing activities:			
Proceeds from initial public offering, net of underwriting discounts and commissions	—	281,589	—
Payments for offering costs	—	(7,233)	—
Repayment of long-term debt	(35,000)	(356,396)	—
Repayment of short-term debt	(1,816)	—	—
Proceeds from the Revolver	15,000	245,000	—
Payments for debt issuance costs	—	(2,318)	—
Principal payments on capital lease obligations	—	(326)	(1,529)
Cash paid for unit repurchases	—	(1,201)	(167)
Proceeds from exercise of stock options	7,155	1,075	—
Payments for repurchase of common stock	(23,655)	—	—
Cash received from Employee Stock Purchase Program (ESPP)	845	—	—
Net cash provided by (used in) financing activities	(37,471)	160,190	(1,696)

INTEGRAL AD SCIENCE HOLDING CORP.
CONSOLIDATED STATEMENTS OF CASH FLOWS

Net increase in cash, cash equivalents, and restricted cash	16,704	23,693	22,579
Effect of exchange rate changes on cash and cash equivalents, and restricted cash	(3,111)	(2,336)	1,772
Cash, cash equivalents, and restricted cash, at beginning of year	76,078	54,721	30,370
Cash, cash equivalents, and restricted cash, at end of year	\$ 89,671	\$ 76,078	\$ 54,721
Supplemental Disclosures:			
Cash paid during the year for:			
Interest	\$ 8,511	\$ 17,109	\$ 21,440
Taxes	\$ 16,396	\$ 2,238	\$ 1,424
Non-cash investing and financing activities:			
Assets acquired under capital leases	\$ —	\$ —	\$ 212
Property and equipment acquired included in accounts payable	\$ 97	\$ 105	\$ 130
Internal use software acquired included in accounts payable	\$ 1,517	\$ 859	\$ 810
Conversion of members' equity to additional paid-in capital	\$ —	\$ 165,385	\$ —
Lease liabilities arising from right of use assets	\$ 29,624	\$ —	\$ —

See accompanying notes to the consolidated financial statements.

INTEGRAL AD SCIENCE HOLDING CORP.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
(IN THOUSANDS, EXCEPT SHARE AND PER SHARE DATA)

1. Description of business

Integral Ad Science Holding, Corp. and its wholly-owned subsidiaries (together, the “Company”), formerly known as Kavacha Topco, LLC, is a leading global digital advertising verification company by revenue. The Company’s mission is to be the global benchmark for trust and transparency in digital media quality for the world’s leading brands, publishers, and platforms. The Company’s cloud-based technology platform provides actionable insights and delivers independent measurement and verification of digital advertising across all devices, channels, and formats, including desktop, mobile, connected TV (“CTV”), social, display, and video. The Company’s proprietary and Media Rating Council (the “MRC”) accredited Quality Impressions[®] metric is designed to verify that digital ads are served to a real person rather than a bot, viewable on-screen, and appear in a brand-safe and suitable environment in the correct geography. The Company is an independent, trusted partner for buyers and sellers of digital advertising to increase accountability, transparency, and effectiveness in the market. The Company helps advertisers optimize their ad spend and better measure consumer engagement with campaigns across platforms, while enabling publishers to improve their inventory yield and revenue.

The Company has its operations within the United States (“U.S.”) in New York, California, and Illinois. Operations outside the U.S. include but are not limited to countries such as the United Kingdom (“U.K.”), France, Germany, Italy, Singapore, Australia, France, Japan, and India.

Corporate conversion

On February 23, 2021, the Company amended the certificate of formation of Kavacha Topco, LLC to change the name of the Company to Integral Ad Science Holding LLC and on June 29, 2021, the Company converted to a Delaware corporation pursuant to a statutory conversion and changed its legal name to Integral Ad Science Holding Corp. in connection with its initial public offering (“IPO”). All of the outstanding member units were converted into 134,203,403 shares of common stock of the Company on a proportion of 1 member unit for 242 shares of common stock with the same voting rights. On June 29, 2021, the Company priced its IPO, which closed on July 2, 2021.

2. Basis of presentation and summary of significant accounting policies

This summary of significant accounting policies is presented to assist in understanding the Company’s consolidated financial statements. These accounting policies have been consistently applied in the preparation of the consolidated financial statements.

(a) Basis of presentation

The Company’s consolidated financial statements are presented in accordance with accounting principles generally accepted in the United States of America (“U.S. GAAP”) and reflect the financial position, results of operations and cash flows for all periods presented.

The Company is an Emerging Growth Company, as defined in the Jumpstart Our Business Startups Act of 2012 (the “JOBS Act”). Under the JOBS Act, Emerging Growth Companies can delay adopting new or revised accounting standards issued subsequent to the enactment of the JOBS Act until such time as those standards apply to private companies. The Company has elected to use this extended transition period for complying with new or revised accounting standards that have different effective dates for public and private companies until the earlier of the date that it (i) is no longer an Emerging Growth Company or (ii) it affirmatively and irrevocably opts out of the extended transition period provided in the JOBS Act. As a result, these financial statements may not be comparable to companies that comply with the new or revised accounting pronouncements as of public company effective dates. The adoption dates discussed below reflect this election.

INTEGRAL AD SCIENCE HOLDING CORP.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
(IN THOUSANDS, EXCEPT SHARE AND PER SHARE DATA)

During the year ended December 31, 2022, the Company reclassified foreign exchange loss, net from "General and administrative" expenses within the Consolidated Statement of Operations and Comprehensive Income (Loss) as a separate line item "Foreign currency translation adjustments" presented on the Consolidated Statement of Operations and Comprehensive Income (Loss). Corresponding prior period amounts have also been reclassified to conform to current period presentation.

(b) Basis of consolidation

The consolidated financial statements include the accounts of Integral Ad Science Holding, Corp. and its wholly-owned subsidiaries. All material intercompany accounts and transactions have been eliminated in consolidation.

(c) Use of estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from these estimates. Significant estimates include fair value of assets acquired in business combinations, including assumptions with respect to future cash inflows and outflows, discount rates, assets useful lives, market multiples, the allocation of purchase price consideration in the business combination valuation of acquired assets and liabilities, the estimated useful lives of intangible assets and internal use software, the allowance for doubtful accounts, goodwill impairment testing; assumptions used to calculate equity-based compensation, and the realization of deferred tax assets. The Company bases its estimates on past experience, market conditions, and other assumptions that the Company believes are reasonable under the circumstances, and the Company evaluates these estimates on an ongoing basis. Actual results may differ from these estimates due to risks and uncertainties, including the continued uncertainty surrounding rapidly changing market and economic conditions due to heightened inflation, changes to fiscal and monetary policy, higher interest rates, currency fluctuations, challenges in the supply chain, disruptions in European economies as a result of the conflict in Ukraine and ongoing effects of the COVID-19 pandemic.

(d) Employee retention tax credit

The Coronavirus Aid, Relief, and Economic Security Act (the "CARES Act") provided an employee retention credit which was a refundable tax credit against certain employment taxes. The Consolidated Appropriations Act (the "Appropriations Act") extended and expanded the availability of the employee retention credit through December 31, 2021. The Appropriations Act amended the employee retention credit to be equal to 70% of qualified wages paid to employees during the 2021 fiscal year.

The Company qualified for the employee retention credit beginning in March 2020 for qualified wages through June 2021 and filed a cash refund claim during the year ended December 31, 2022. The Company recorded an employee retention credit totaling \$6,981, within Employee retention tax credit on the Company's Condensed Consolidated Statements of Operations and Comprehensive Income (Loss). As of December 31, 2022, the tax credit receivable has been included within Prepaid expenses and other current assets on the Company's Consolidated Balance Sheets.

INTEGRAL AD SCIENCE HOLDING CORP.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
(IN THOUSANDS, EXCEPT SHARE AND PER SHARE DATA)

(e) Foreign currency

The reporting currency of the Company is the U.S. dollar. The functional currency of our foreign subsidiaries is the currency of the primary economic environment in which they operate, which is their local currency. The financial statements of these subsidiaries are translated into U.S. dollars using month-end rates of exchange for assets and liabilities, and average rates of exchange for revenue, costs and expenses. Translation gains and losses are recorded in accumulated other comprehensive income (loss) in stockholders' equity. The Company recorded translation losses of \$2,584 and \$4,838 and gains of \$4,348 for the years ended December 31, 2022, 2021, and 2020, respectively. Transaction gains and losses including those on intercompany transactions denominated in a currency other than the functional currency of the entity involved are included in foreign exchange gain (loss) in the Consolidated Statement of Operations and Comprehensive Income (Loss). The Company recorded transaction gains of \$480 and losses of \$621 and \$706 for the years ended December 31, 2022, 2021 and 2020, respectively.

(f) Concentrations of credit risk

Our assets that are exposed to concentrations of credit risk consist primarily of cash and cash equivalents and accounts receivable.

Cash equivalents consist of money market funds, which are invested through financial institutions in the United States. Such deposits may, at times, exceed federally insured limits. The Company has not experienced any losses in such amounts and believes it is not exposed to any significant credit risk to cash.

Accounts receivable are spread over many customers in various countries. The Company maintains an allowance for uncollectible accounts receivable based on expected collectability and through the ongoing performance of credit evaluations of customers' financial condition.

As of December 31, 2022 and 2021, no customer accounted for more than 10% of accounts receivable.

The Company has entered into long-term revenue share agreements with certain demand-side platforms. The results of operations would be adversely affected if these agreements were to be terminated.

(g) Cash, cash equivalents, and restricted cash

Cash and cash equivalents include highly liquid investments with an original maturity date of three months or less at the time of purchase. Cash amounts with restrictions are classified as restricted cash within the Consolidated Balance Sheets.

The following table provides a roll forward of the changes in the restricted cash balance:

Restricted cash as of January 1, 2021	2,987
Release of deposits for facilities leases no longer restricted	(1)
Release of deposits for medical claims	(117)
Restricted cash as of December 31, 2021	2,869
Release of deposits for facilities leases no longer restricted	(26)
Release of deposits for medical claims	(49)
Restricted cash as of December 31, 2022	<u>\$ 2,794</u>

The following table provides a reconciliation of cash, cash equivalents, and restricted cash reported within the Consolidated Balance Sheets to the amounts shown in the Consolidated Statements of Cash Flows.

INTEGRAL AD SCIENCE HOLDING CORP.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
(IN THOUSANDS, EXCEPT SHARE AND PER SHARE DATA)

	December 31,	
	2022	2021
Cash and cash equivalents	\$ 86,877	\$ 73,210
Short-term restricted cash	45	70
Long-term restricted cash (held in other long-term assets)	2,749	2,798
Total cash, cash equivalents, and restricted cash shown in the Consolidated Statements of Cash Flows	<u>\$ 89,671</u>	<u>\$ 76,078</u>

(h) Accounts receivable, net

Accounts receivable are carried at the original invoiced amount less an allowance for doubtful accounts. The allowance is estimated based on management's knowledge of its customers' financial condition, credit history, and existing economic conditions. Invoices are typically issued with net 30-days to net 90-days terms. Account balances are considered delinquent if payment is not received by the due date, and the receivables are written off when deemed uncollectible. The allowance for doubtful accounts are recorded in general and administrative expenses within the Consolidated Statements of Operations and Comprehensive Income (Loss).

The activity in our allowance for doubtful accounts consists of the following:

	December 31,		
	2022	2021	2020
Balance at beginning of year	\$ 5,883	\$ 4,257	\$ 5,843
Additional provision	1,837	3,024	2,200
Receivables written-off/reversals	(1,029)	(1,398)	(3,786)
Balance at the end of year	<u>\$ 6,691</u>	<u>\$ 5,883</u>	<u>\$ 4,257</u>

(i) Property and equipment, net

Property and equipment are recognized in the Consolidated Balance Sheet at cost less accumulated depreciation. The Company depreciates its property and equipment using the straight-line method of depreciation over the estimated useful lives of the respective assets, with the exception of leasehold improvements, which is the shorter of the useful life of the asset or the lease term.

The cost of repairs and maintenance are expensed as incurred. Major renewals or improvements that extend the useful lives of the assets are capitalized. When assets are retired or disposed of, the cost and accumulated depreciation thereon are removed, and any resulting gain or loss is recognized in the Consolidated Statements of Operations and Comprehensive Income (Loss).

Long lived assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of the assets may not be recoverable. Recoverability is assessed based on the future cash flows expected to result from the use of the asset and its eventual disposition. If the sum of the undiscounted cash flows is less than the carrying amount of the asset, an impairment loss is recognized. Any impairment loss, if indicated, is measured as the amount by which the carrying amount of the asset exceeds its estimated fair value and is recognized as a reduction in the carrying amount of the asset. As of December 31, 2022, 2021 and 2020, there were no events or changes in circumstances to indicate that the carrying amount of the assets may not be recoverable.

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(j) Leases

For arrangements where there is an identified asset and the contract conveys the right to control its use, the Company will recognize lease liabilities at the lease commencement date based on the present value of lease payments over the lease term. Right-of-use ("ROU") assets represent the Company's right to use leased assets over the term of the lease, adjusted for incremental direct costs and lease incentives such as tenant improvements. ROU assets and lease liabilities are determined based on the present value of future lease payments using the interest rate implicit in the lease or, if that rate cannot be readily determined, the incremental borrowing rate. Incremental borrowing rates were determined for each lease based on the Company's borrowing rate adjusted for term differences and foreign currency risk. For operating leases, ROU assets are reduced over the lease term by the straight-line lease expense recognized less the amount of accretion of the lease liability determined using the effective interest method.

Some real estate leases contain lease and non-lease components. Non-lease components generally represent use-based charges for common area maintenance, taxes and utilities. The Company has elected not to separate lease and non-lease components. Variable lease payments consist primarily of common area maintenance, utilities and taxes, which are not included in the recognition of ROU assets and related lease liabilities. The Company recognizes variable lease payments in the period in which the obligation for those payments is incurred. Some contracts also contain lease incentives such as tenant improvement allowances and rent holidays, which are treated as a reduction of lease payments for the measurement of the lease liability.

Leases with an initial term of 12 months or less are not recorded on the balance sheet and lease expense for these arrangements is recorded as paid over the lease term.

The Company has not recognized renewal options as part of its right-of-use assets and lease liabilities, as the renewal options are not reasonably certain of exercise or occurrence as of December 31, 2022. Additionally, these lease arrangements do not contain residual value guarantees, and there are no other restrictions or covenants in the contracts.

All long-lived assets used in the Company's operations are subject to review for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability is assessed based on the future cash flows expected to result from the use of the asset and its eventual disposition. If the sum of the undiscounted cash flows is less than the carrying amount of the asset, an impairment loss is recognized. Any impairment loss, if indicated, is measured as the amount by which the carrying amount of the asset exceeds its estimated fair value and is recognized as a reduction in the carrying amount of the asset. As of December 31, 2022, there were no events or changes in circumstances to indicate that the carrying amount of the assets may not be recoverable.

(k) Goodwill

Goodwill is the excess of purchase price over the fair value of the net tangible and identifiable intangible assets acquired. In testing goodwill for impairment, there is an option to begin with a qualitative assessment, commonly referred to as "Step 0", to determine whether it is more likely than not that the fair value of a reporting unit containing goodwill is less than its carrying value. This qualitative assessment may include, but is not limited to, reviewing factors such as macroeconomic conditions, industry and market considerations, cost factors, entity-specific financial performance and other events, such as changes in management, strategy and primary user base. If the Company determines that it is more likely than not that the fair value of a reporting unit is less than its carrying value, then a quantitative goodwill impairment analysis is performed which is referred to as "Step 1". Depending upon the results of that analysis, if the carrying amount of the reporting unit exceeds its fair value, goodwill may be written down and impairment expense is recorded in the Consolidated Statements of Operations and Comprehensive Income (Loss). As of December 31, 2022, 2021 and 2020, there were no impairment charges taken.

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(l) Intangible assets, net

Intangible assets consist of developed technology, customer relationships, favorable leases, and trademarks. Intangible assets are recorded at fair value at the time of their acquisition and are stated within our Consolidated Balance Sheets net of accumulated amortization. Intangible assets are amortized on a straight-line basis or using an accelerated method, over their estimated useful lives. Amortization expenses are recorded as operating expenses within our Consolidated Statements of Operations and Comprehensive Income (Loss). Intangible assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of the assets may not be recoverable. As of December 31, 2022, 2021 and 2020, there were no events or changes in circumstances to indicate that the carrying amount of the assets may not be recoverable.

(m) Fair value measurements

The Company follows ASC 820-10, *Fair Value Measurements*, which defines fair value, establishes a framework for measuring fair value and requires certain disclosures about fair value measurements.

Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the most advantageous market for the asset or liability in an orderly transaction. Fair value measurement is based on a hierarchy of observable or unobservable inputs. The standard describes three levels of inputs that may be used to measure fair value.

Level 1 — Inputs to the valuation methodology are quoted prices available in active markets for identical securities as of the reporting date;

Level 2 — Inputs to the valuation methodology are other significant observable inputs, including quoted prices for similar securities, interest rates, credit risk etc. as of the reporting date, and the fair value can be determined through the use of models or other valuation methodologies; and

Level 3 — Inputs to the valuation methodology are unobservable inputs in situations where there is little, or no market activity of the securities and the reporting entity makes estimates and assumptions relating to the pricing of the securities including assumptions regarding risk.

We segregate all financial assets and liabilities that are measured at fair value on a recurring basis into the most appropriate level within the fair value hierarchy based on the inputs used to determine the fair value at the measurement date.

(n) Revenue recognition

The Company's customers include advertisers and publishers. The Company's pre-bid and post-bid verification solutions enable advertisers to measure campaign performance and value across viewability, ad fraud prevention, brand safety and suitability, and contextual targeting for ads on desktop, mobile in-app, social, and CTV platforms. The Company's pre-bid programmatic solution is directly integrated with DSPs to help optimize return on ad spend by directing budgets to the best available inventory. The Company's solutions help publishers globally deliver high quality ad inventory that is fraud free, viewable, brand safe and suitable, and geographically targeted.

The Company recognizes revenue under the five step model in accordance with ASC 606.

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Identify the contract with a customer

The Company maintains agreements with each customer primarily in the form of written master service agreements, which set out the rights and obligations of the arrangement, including key terms and access to the Company's platform. The Company ensures the following criteria are met when determining if a contract exists (i) contract is approved by all parties, (ii) each party's rights regarding the services to be transferred are identified, (iii) payment terms are specified, (iv) contract has commercial substance, and (v) collectability of substantially all consideration is probable.

Identify the performance obligations in the contract

For all contracts, the Company identifies performance obligations at contract inception by evaluating whether the promised services are distinct. Performance obligations within the majority of the Company's contracts comprise a series of distinct services that are satisfied ratably over time and are treated as a single performance obligation. Promises identified within standard contracts include (i) access to the Company's platform, (ii) customer support services, and (iii) updates and enhancements to the Company's platform and data.

Determine the transaction price

Once the Company identifies the performance obligations within the contract, the Company will determine the transaction price based on contractual amounts and stated terms. Contracts with the Company's customers primarily utilize a usage-based structure, where CPM pricing is consistent over the contract term. Contracts with the Company's customers may also utilize other pricing arrangements, including minimum commitments, overages based on tiered pricing or flat fees.

Allocate the transaction price to the performance obligations in the contract

Transaction prices in the Company's arrangements are allocated to each distinct service, ensuring that revenue is recorded in the right period and for the right amount.

Recognize revenue when a performance obligation is satisfied

The Company recognizes revenue when control of the promised services are transferred to customers. The Company recognizes revenue by multiplying the CPM and the number of impressions measured. An impression is measured by the platform when a digital ad is served to a real person rather than a bot, viewable on-screen, and presented in a brand-safe and suitable environment in the correct geography. This method utilizes the "right to invoice" practical expedient as the invoiced amount directly corresponds to the value of the Company's performance to date.

The Company evaluated arrangements with its customers where the customer purchases the Company's services through a DSP to determine if such revenue should be reported on a gross or net basis. In these arrangements, the demand side platform collects the fee on behalf of the Company for the purchase of advertising inventory on an exchange. In these transactions, the Company is primarily responsible for providing these services directly to the customer and has latitude in establishing the sales price with the customers. As a result, the Company records revenue for the gross amounts paid by the customers for these services and records the amounts retained by the demand side platforms as a cost of revenue.

Invoices are typically issued with net 30-days to net 90-days terms and customers do not have a contractual right to refunds. Cash payments received prior to the Company's delivery of its services are recorded to deferred revenue until the performance obligation is satisfied. The Company recorded deferred revenue (contract liabilities) to account for billings in excess of revenue recognized, primarily related to contractual minimums billed in advance and customer prepayment of \$99 and \$160 as of December 31, 2022 and 2021, respectively.

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The Company recognizes expenses when direct fulfillment costs are incurred. Sales commissions represent incremental contract costs of obtaining a contract. The majority of these costs are recorded in sales and marketing expenses within the Consolidated Statement of Operations and Comprehensive Income (Loss).

See Note 11, Segment data, for disaggregated revenue by geographic region.

(o) Net income (loss) per share

Basic net income (loss) per share is computed by dividing the net income (loss) by the weighted-average number of shares outstanding during the reporting period, without consideration for potentially dilutive securities. Diluted net income (loss) per share is computed by dividing the net income (loss) attributable to the shareholders by the weighted-average number of shares and potentially dilutive securities outstanding during the period.

(p) Income taxes

The Company is subject to U.S. federal, state, and local income taxation on its income. The Company accounts for income taxes using an asset and liability approach, which requires estimates of taxes payable or refunds for the current period and estimates of deferred income tax assets and liabilities for the anticipated future tax consequences attributable to differences between the carrying amounts of assets and liabilities for financial reporting purposes and the corresponding amounts used for income tax purposes. Current and deferred income tax assets and liabilities are based on provisions of the enacted income tax laws and are measured using the enacted income tax rates and laws that are expected to be in effect when the future tax events are expected to reverse. The effects of future changes in income tax laws or rates are not anticipated. The income tax provision is comprised of the current income tax expense and the change in deferred income tax assets and liabilities.

The portion of any deferred tax asset for which it is more likely than not that a tax benefit will not be realized is offset by recording a valuation allowance. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible.

The tax effects of an uncertain tax position ("UTP") taken or expected to be taken in income tax returns are recognized only if it is "more-likely-than-not" to be sustained on examination by the taxing authorities, based on its technical merits as of the reporting date. The tax benefits recognized in the consolidated financial statements from such a position are measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement. The Company recognizes estimated interest and penalties related to UTPs in income tax expense.

The Company recognizes the resolution of an UTP in the period when it is effectively settled. Previously recognized tax positions are derecognized in the first period in which it is no longer more likely than not that the tax position would be sustained upon examination. The Company evaluated all potential uncertain tax positions and identified no significant uncertain positions.

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(q) Business combinations

The Company determines if the acquisition of an entity or a group of assets is a business combination, which is accounted for using the acquisition method of accounting. Under the acquisition method, once control is obtained of a business, the assets acquired, and liabilities assumed, including amounts attributed to noncontrolling interests, are recorded at fair value. The Company uses its best estimates and assumptions to assign fair value to the tangible and intangible assets acquired and liabilities assumed at the acquisition date. One of the most significant estimates relates to the determination of the fair value of these assets and liabilities. The determination of the fair values is based on estimates and judgments made by management. The Company's estimates of fair value are based upon assumptions it believes to be reasonable, but which are inherently uncertain and unpredictable. Additionally, uncertain tax positions and tax-related valuation allowances are recorded in connection with a business combination as of the acquisition date. Measurement period adjustments are reflected at the time identified, up through the conclusion of the measurement period, which is the time at which all information for determination of the values of assets acquired and liabilities assumed is received and is not to exceed one year from the acquisition date. The Company may record adjustments to the fair value of these tangible and intangible assets acquired and liabilities assumed, with the corresponding offset to goodwill. If outside of the measurement period, any subsequent adjustments are recorded in the Company's Consolidated Statements of Operations and Comprehensive Income (Loss).

(r) Stock-based compensation

Stock-based compensation is measured at the grant date based on the fair value of the award and is recognized as expense over the requisite service period, which is generally the vesting period. The Company accounts for forfeitures as they occur. The Company used the following assumptions in valuing its time-based service options, which vest over a period of time subject to continued employment ("Time-Based Options"), return target options ("Return-Target Options"), which vest upon a realized cash return of the equity investment of Vista Equity Partners ("Vista"), the Company's equity sponsor and funds controlled by Vista and registration of the shares held by Vista, market stock units ("MSUs"), and shares to be purchased under the 2021 Employee Stock Purchase Plan ("ESPP").

Expected term — For time-based awards, the estimated expected term of options granted is generally calculated as the vesting period plus the midpoint of the remaining contractual term, as the Company does not have sufficient historical information to develop reasonable expectations surrounding future exercise patterns and post-vesting employment termination behavior. For awards subject to market and performance conditions, the expected term represents the period of time that the options granted are expected to be outstanding.

Expected volatility — Since the Company does not have substantive trading history of its common stock, volatility is estimated based upon observed option implied volatilities for a group of peer companies. The Company believes this is the best estimate of the expected volatility over the weighted-average expected term of its option grants.

Risk-free interest rate — The risk-free interest rate is based on the implied yield currently available on U.S. Treasury instruments with terms approximately equal to the expected term of the option.

Expected dividend — The expected dividend assumption was based on the Company's history and expectation of dividend payouts. The Company currently has no history or expectation of paying cash dividends on its units.

Fair value — Prior to the IPO, because there was no public market for the Company's common stock/units, the board of directors determined the best estimate of the fair value of the Company's option grants, based on reasonable judgment and numerous objective and subjective factors, including independent third-party valuations of the Company's common stock/units, operating and financial performance, and general and industry-specific economic outlook, amongst other factors. As a result of the IPO, the Company's shares are traded in the public market, and accordingly the Company uses the applicable closing price of its common stock to determine fair value.

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	December 31,								
	2022			2021			2020 ⁽¹⁾		
Estimated fair value	\$3.26	-	\$15.15	\$8.16	-	\$14.04	\$2.29	-	-
Expected volatility (%)	70%	-	80%	65.0%	-	80.0%	70.0%	-	75.0%
Expected term (in years)	0.50	-	4.00	3.00	-	10.00	3.25	-	6.63
Risk-free interest rate (%)	2.96%	-	3.97%	0.46%	-	0.98%	0.26%	-	0.55%
Dividend yield	—			—			—		

⁽¹⁾ For issuances prior to the pricing of the IPO, the fair value of the Company's option grants was estimated at the grant date using the Monte Carlo simulation model and relate to the Return-Target Options only as the Time-Based Options were not within the scope of ASC 718, *Compensation - Stock Compensation* for the year ended December 31, 2020.

(s) Internal use software, net

Software development costs consist primarily of cost incurred in research and development, software engineering, and web design activities and related employee compensation costs to create, enhance, and deploy the software infrastructure. Software development costs are expensed as incurred where the amounts primarily relate to planning activities, minor developments or normal maintenance activities that do not meet the requirements under ASC 350-40, *Internal Use Software*. The majority of these costs are recorded in technology and development expenses in the Company's Consolidated Statements of Operations and Comprehensive Income (Loss).

Capitalized costs would include costs incurred during the software development stage, which occurs after the preliminary design stage. Such costs include consultant costs and salaries of engineers and data scientists. Enhancements to existing internal use software are capitalized when it is more likely than not that they will result in significant additional capabilities. For the years ended December 31, 2022, 2021 and 2020, respectively, the Company incurred \$15,379, \$13,654 and \$9,380 of costs that met the requirements of internal use software capitalization, with \$1,517 and \$859 of costs in accounts payable as of December 31, 2022 and 2021, respectively. These costs were capitalized when incurred and are recognized in the Consolidated Balance Sheets at cost less accumulated amortization. The Company amortizes the software using the straight-line method over three years.

(t) Advertising Costs

The Company expenses advertising costs as incurred. The Company incurred \$2,333, \$1,861 and \$690 in advertising expense during the years ended December 31, 2022, 2021 and 2020, respectively.

(u) Deferred offering costs

Deferred offering costs are capitalized and consist of fees incurred in connection with our IPO and include legal, accounting, printing, and other IPO-related costs. Upon the completion of our IPO, which occurred on July 2, 2021, these deferred costs were reclassified to members'/stockholders' equity and recorded against the proceeds from the offering.

There were no deferred offering costs incurred as of December 31, 2022. Deferred offering costs of \$7,233 were recognized within additional paid-in capital on the Company's Consolidated Balance Sheets as of December 31, 2021.

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(v) Recently adopted accounting pronouncements

In January 2017, the Financial Accounting Standards Board (the “FASB”) issued Accounting Standards Update (“ASU”) No. 2019-12, Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes (“ASU No. 2019-12”) effective January 1, 2021, which simplifies the accounting for income taxes, eliminates certain exceptions within ASC 740, *Income Taxes*, and clarifies certain aspects of the current guidance to promote consistency among reporting entities. Most amendments within ASU No. 2019-12 are required to be applied on a prospective basis, while certain amendments must be applied on a retrospective or modified retrospective basis. The Company early adopted ASU No. 2019-12, which did not have a material impact on the Company’s consolidated financial statements.

In August 2018, the FASB issued ASU 2018-15, Customer’s Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract (“ASU No. 2018-15”), which requires customers in a cloud computing arrangement that is a service contract to follow the internal use software guidance in ASC 350-40 to determine which implementation costs to capitalize as assets. The guidance requires certain costs incurred during the application development stage to be capitalized and other costs incurred during the preliminary project and post-implementation stages to be expensed as they are incurred. Capitalized implementation costs related to a hosting arrangement that is a service contract will be amortized over the term of the hosting arrangement, beginning when the module or component of the hosting arrangement is ready for its intended use. A customer’s accounting for the hosting component of the arrangement is not affected. The Company adopted this guidance on January 1, 2021 on a prospective basis. The adoption of ASU 2018-15 did not have a material impact on the Company’s consolidated financial statements.

In February 2016, the FASB issued ASU 2016-2, “Leases (Topic 842)” (“ASU No. 2016-2”). Under ASU No. 2016-2, lessees are required to put most leases on their balance sheets but to recognize expenses in the income statement in a manner similar to current accounting. ASU No. 2016-2 also eliminated the current real estate-specific provisions and changed the guidance on sale-leaseback transactions, initial direct costs, and lease executory costs for all entities. The updated guidance is effective for the Company beginning January 1, 2022. Upon adoption, entities are required to use the modified retrospective approach for leases that exist, or are entered into, after the beginning of the earliest comparative period in the financial statements. In July 2018, the FASB issued ASU 2018-11, Leases (Topic 842), Targeted Improvements, which allows entities to not apply the new leases standard, including its disclosure requirements, in the comparative periods they present in their financial statements in the year of adoption.

The Company adopted ASU No. 2016-2 on January 1, 2022 using the modified retrospective transition approach, which resulted in the recognition of right-of-use assets of \$21,666 and lease liabilities of \$29,361. Differences between ROU assets and lease liabilities are attributed to deferred rent, lease incentive obligations and a cease-use liability previously recognized under ASC 420 *Exit or Disposal Cost Obligations*. The Company elected the package of practical expedients not to reassess prior conclusions related to contracts containing leases, lease classification and initial direct costs. In addition, the Company elected the expedient permitting the combination of lease and non-lease components into a single lease component. The Company made a policy election to not recognize ROU assets and lease liabilities for short-term leases for all asset classes.

The adoption of ASU No. 2016-2 did not have a material impact on the Consolidated Statements of Operations and Comprehensive Income (Loss) or the Consolidated Statement of Cash Flows. Expanded disclosures around the Company’s lease agreements under ASU No. 2016-2 are included in Note 2(j), Basis of presentation and significant accounting policies, and Note 14, Leases.

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(w) Accounting pronouncements not yet adopted

In October 2021, the FASB issued ASU 2021-08, "Accounting for Contract Assets and Contract Liabilities from Contracts with Customers," which is intended to improve the accounting for acquired revenue contracts with customers in a business combination and create consistency in practice related to (i) the recognition of an acquired contract liability, and (ii) payment terms and their effect on subsequent revenue recognized by the acquirer. This ASU is effective for annual periods, including interim periods within those annual periods, beginning after December 15, 2023. The Company will evaluate the impact of this guidance on future acquisitions as transactions occur.

In March 2020, the FASB issued ASU 2020-4, "Facilitation of the Effects of Reference Rate Reform on Financial Reporting," ("ASU No. 2020-4") which is intended to address accounting consequences that could result from the global markets' anticipated transition away from the use of the London Interbank Offered Rate ("LIBOR") and other interbank offered rates to alternative reference rates. The amendments in ASU No. 2020-4 provide operational expedients and exceptions for applying U.S. GAAP to contracts, hedging relationships and other transactions affected by reference rate reform if certain criteria are met. The amendments in ASU No. 2020-4 apply only to contracts, hedging relationships, and other transactions that reference LIBOR or another reference rate expected to be discontinued because of the reference rate reform. The optional amendments are effective for all entities as of March 12, 2020, through December 31, 2022. The Company intends to elect to apply certain of the optional expedients when evaluating the impact of reference rate reform on its debt instruments that reference LIBOR. The Company does not expect the adoption of ASU No. 2020-4 to have a material impact on its consolidated financial statements.

In June 2016, the FASB issued ASU No. 2016-13, "Financial Instruments — Credit Losses (Topic 326), Measurement of Credit Losses on Financial Instruments," ("ASU No. 2016-13") which is intended to provide more decision-useful information about expected credit losses on financial instruments and other commitments to extend credit held by a reporting entity at each reporting date. ASU No. 2016-13 revises the impairment model to utilize an expected loss methodology in place of the currently used incurred loss methodology, which will result in more timely recognition of losses on financial instruments, including, but not limited to accounts receivable. The Company adopted ASU No. 2016-13 on January 1, 2023, utilizing the modified retrospective approach requiring a cumulative-effect adjustment to the opening accumulated deficit in the first quarter of 2023. The Company does not believe that adopting this guidance will have a material impact on its consolidated financials. The Company is continuing to evaluate the impact of ASU No. 2016-13.

3. Business combinations

Publica

On August 9, 2021, a wholly-owned subsidiary of the Company acquired, directly or indirectly, all the membership units and membership interests of Publica. The purchase price related to this acquisition was \$171,366 in cash of which \$680 was included in acquisitions payable as of December 31, 2021 and 2,888,889 shares of common stock of the Company, valued at \$49,631. The acquisition was financed with proceeds received from the Company's IPO, as described in Note 1, "Description of business."

The Publica acquisition was accounted for in accordance with ASC 805, *Business Combinations* ("ASC 805"), using the acquisition method of accounting. The assets and liabilities of Publica, including identifiable intangible assets, have been measured at their fair value primarily using Level 3 inputs. Determining the fair value of the assets acquired and liabilities assumed required judgment and involved the use of significant estimates and assumptions, including assumptions with respect to future cash inflows and outflows, discount rates, assets useful lives, market multiples, and other items. The use of different estimates and judgements could yield materially different results.

The fair value of the customer relationship intangible asset acquired was determined using the excess earnings method. The estimated fair value of the trademark and developed technology intangible assets acquired were determined using the relief from royalty method.

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The excess of the purchase price, over the fair value of net assets acquired, including the amount assigned to the identifiable intangible assets, has been recorded to goodwill. The resulting goodwill has been allocated to the Company's single reporting unit. Goodwill deductible for tax purposes is \$57,972.

The allocation of purchase consideration to the assets acquired and liabilities assumed is as follows:

	Fair Value	Useful Life
Assets acquired:		
Cash and cash equivalents	\$ 4,482	
Accounts receivable	2,391	
Property, plant and equipment	46	
Taxes receivable and prepaid expenses	188	
Security deposits	12	
Intangible assets:		
Developed technology	15,200	5 years
Trademarks	2,200	5 years
Customer relationships	42,800	6 years
Total intangible assets	60,200	
Total identifiable assets acquired	\$ 67,319	
Liabilities assumed:		
Accounts payable	\$ 560	
Other current liabilities	2	
Deferred tax liability	36,161	
Total liabilities assumed	36,723	
Goodwill	190,401	Indefinite
Total purchase consideration	\$ 220,997	

Context

On December 31, 2021, a wholly-owned subsidiary of the Company acquired, directly or indirectly, all the common equity of Nobora SAS ("Context"). The acquisition builds on the Company's current, market-leading media classification and contextual targeting capabilities. The integration of Context's technology will enable marketing partners to identify brand suitable content beyond standard frameworks and contextually target with granularity. The purchase price related to this acquisition was \$22,575 in cash, of which \$967 is payable on December 31, 2023, and 457,959 shares of common stock of the Company, valued at \$10,391.

The Context acquisition was accounted for in accordance with ASC 805, using the acquisition method of accounting. The assets and liabilities of Context, including identifiable intangible assets, have been measured at their fair value primarily using Level 3 inputs. Determining the fair value of the assets acquired and liabilities assumed required judgement and involved the use of significant estimates and assumptions, including assumptions with respect to discount rates, opportunity costs, and assets useful lives. The use of different estimates and judgements could yield materially different results.

The fair values allocated to the assets acquired are based on management's estimates and assumptions and may be subject to change as additional information becomes available. The estimated fair value of the developed technology intangible asset acquired was determined using the cost method.

The excess of the purchase price, over the fair value of net assets acquired, including the amount assigned to the identifiable intangible assets, has been recorded to goodwill. The resulting goodwill has been allocated to the Company's single reporting unit, none of which will be deductible for tax purposes.

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The allocation of purchase consideration to the assets acquired and liabilities assumed is as follows:

	<u>Fair Value</u>	<u>Useful Life</u>
Assets acquired:		
Accounts receivable	\$ 122	
Other assets	112	
Developed technology	7,670	5 years
Total identifiable assets acquired	\$ 7,904	
Liabilities assumed:		
Accounts payable	\$ 318	
Short-term debt	2,354	
Deferred tax liability	142	
Total liabilities assumed	2,814	
Goodwill	27,876	Indefinite
Total purchase consideration	\$ 32,966	

The Company recognized a deferred tax liability of \$142 on its purchase of Context.

We have included the financial results of business combinations in the consolidated financial statements from the respective dates of acquisition, which were not material. Pro forma revenue and earnings amounts on a combined basis have not been presented as the impacts were not material.

4. Property and equipment, net

Property and equipment consisted of the following:

	<u>Estimated Useful Lives</u>	<u>December 31,</u>	
		<u>2022</u>	<u>2021</u>
Computer and office equipment	1-3 years	\$ 3,761	\$ 3,100
Computer software	3-5 years	218	218
Leasehold improvements	Various	1,060	412
Furniture	5 years	308	66
		<u>5,347</u>	<u>3,796</u>
Less: Accumulated depreciation and amortization		(2,935)	(2,383)
Total property and equipment, net		\$ 2,412	\$ 1,413

Depreciation and amortization expense of property and equipment for years ended December 31, 2022, 2021, and 2020 was \$907, \$1,719 and \$2,981, respectively. During the years ended December 31, 2022 and 2021, the Company wrote off assets of \$294 and \$8,786, respectively.

The Company had no computer and office equipment under capital leases as of December 31, 2022 and 2021. Depreciation expense related to assets under capital leases included \$291 and \$1,495 for the years ended December 31, 2021 and 2020, respectively. During the year ended December 31, 2021, the Company wrote off fully depreciated assets under capital leases of \$6,073.

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5. Internal use software, net

Internal use software consisted of the following:

	Estimated Useful Life	December 31,	
		2022	2021
Internal use software	3 - 5 years	\$ 47,658	\$ 32,591
Less: Assets written off		(199)	—
Less: Accumulated amortization		(23,817)	(14,491)
Total internal use software, net		<u>\$ 23,642</u>	<u>\$ 18,100</u>

Amortization expense for the years ended December 31, 2022, 2021 and 2020 was \$9,632, \$7,768 and \$4,813, respectively. During the year ended December 31 2021, the Company acquired internal-use software of \$4,548, which expanded the Company's Total Visibility® product offering and provided insight into digital media quality and corresponding supply path costs. For the year ended December 31, 2022 the Company wrote off \$199 of costs related to projects that were no longer being implemented, recorded in general and administrative expenses within the Consolidated Statements of Operations and Comprehensive Income (Loss).

The estimated amortization expense for assets held at December 31, 2022 is as follows:

	Estimated Amortization Expense
2023	10,653
2024	8,570
2025	4,340
2026	\$ 79
Total	<u>\$ 23,642</u>

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6. Intangible assets, net

The gross book value, accumulated amortization, net book value and amortization periods of the intangible assets were as follows:

December 31, 2022					
	Estimated Useful Life	Gross Book Value	Accumulated Amortization	Net Book Value	Weighted Average Remaining Useful Life
Customer relationships	5-15 years	\$ 301,955	\$ (112,589)	\$ 189,366	9.5 years
Developed technology	4-5 years	137,112	(118,650)	18,462	3.5 years
Trademarks	9 years	19,700	(10,021)	9,679	4.4 years
Favorable leases	6 years	198	(147)	51	1.5 years
Total		\$ 458,965	\$ (241,407)	\$ 217,558	

December 31, 2021					
	Estimated Useful Life	Gross Book Value	Accumulated Amortization	Net Book Value	Weighted Average Remaining Useful Life
Customer relationships	5-15 years	\$ 302,026	\$ (82,105)	\$ 219,921	10.4 years
Developed technology	4-5 years	138,342	(112,347)	25,995	4.5 years
Trademarks	9 years	19,700	(7,384)	12,316	5.4 years
Favorable leases	6 years	198	(114)	84	2.5 years
Total		\$ 460,266	\$ (201,950)	\$ 258,316	

Amortization expense related to intangibles for the years ended December 31, 2022, 2021 and 2020 were \$39,857, \$52,576 and \$58,090, respectively.

Amortization expense for the subsequent five years and thereafter is as follows:

2023	38,717
2024	37,809
2025	34,113
2026	29,880
2027	20,616
2028 and thereafter	56,423
	\$ 217,558

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7. Goodwill

The following table provides a roll forward of the changes in the goodwill balance:

Goodwill as of January 1, 2021	\$	458,586
Impact of changes in exchange rates		(499)
Acquisition of Publica (Note 3)		190,401
Acquisition of Context (Note 3)		28,024
Goodwill as of December 31, 2021	<u>\$</u>	<u>676,513</u>
Measurement period adjustments		(231)
Impact of changes in exchange rates and other		(2,188)
Goodwill as of December 31, 2022	<u>\$</u>	<u>674,094</u>

For the years ended December 31, 2022, 2021 and 2020, there were no impairment losses related to goodwill.

8. Accounts payable and accrued expenses and other long-term liabilities

Accounts payable and accrued expenses consisted of the following:

	December 31,	
	2022	2021
Accounts payable	\$ 10,487	\$ 8,307
Accrued payroll	12,623	5,047
Accrued professional fees	3,150	2,334
Accrued bonuses and commissions	16,527	16,454
Accrued revenue sharing	3,522	8,497
Taxes payable	3,130	6,076
Short term debt	—	1,976
Accrued hosting fees	5,949	2,465
Cease use liability (short-term)	—	1,298
Other accrued expenses	5,411	3,803
Total accounts payable and accrued expenses	<u>\$ 60,799</u>	<u>\$ 56,257</u>

Other long-term liabilities consisted of the following:

	December 31,	
	2022	2021
Purchase price payable for the acquisitions of Publica and Context	\$ —	\$ 2,320
Cease use liability (long-term)	—	5,689
Security deposit received	672	672
Fin 48 liability	394	—
Total other long-term liabilities	<u>\$ 1,066</u>	<u>\$ 8,681</u>

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9. Long-term debt

On September 29, 2021, the Company entered into a credit agreement with various lenders (the "Credit Agreement"), that provides for an initial \$300,000 in commitments for revolving credit loans (the "Revolver"), which amount may be increased or decreased under specific circumstances, with a \$30,000 letter of credit sublimit and a \$100,000 alternative currency sublimit. In addition, the Credit Agreement provides for the ability to request incremental term loan facilities, in a minimum amount of \$5,000 for each facility. Borrowings pursuant to the Credit Agreement may be used for working capital and other general corporate purposes, including for acquisitions permitted under the Credit Agreement. The Company drew down \$235,000 on the Revolver on September 29, 2021 and an additional \$10,000 on December 23, 2021. During the year ended December 31, 2022, the Company drew \$15,000 and paid down \$35,000 under the Revolver.

Borrowings under the Credit Agreement are scheduled to mature on September 29, 2026. The Credit Agreement contains certain customary events of default including failure to make payments when due thereunder, and failure to observe or perform certain covenants.

The proceeds of the Revolver, together with cash on hand, were used to repay the outstanding balance of the term loan and revolving loan, under the prior credit agreement entered into on July 19, 2018 (the "Prior Credit Agreement"). In connection with the Revolver, the Company incurred costs of \$2,318 that are included in Long-term debt, net, in the Consolidated Balance Sheets. In connection with the extinguishment of the term loan and revolving loan under the prior credit agreement, the Company wrote off deferred financing costs of \$3,721 as a loss on extinguishment.

The interest rates for the Revolver under the Credit Agreement for U.S. dollar loans are equal to (i) the applicable rate for base rate loans range from 0.75% to 1.50% per annum, (ii) for LIBO Rate (as defined in the Credit Agreement) loans range from 1.75% to 2.50% per annum, (iii) for RFR Loans (as defined in the Credit Agreement) denominated in sterling range from 1.7826% to 2.5326%, and (iv) for RFR Loans denominated in euro range from 1.7965% to 2.5456%, in each case, based on the Senior Secured Net Leverage Ratio (as defined in the Credit Agreement). Base rate borrowings may only be made in dollars. The Company is required to pay a commitment fee during the term of the Credit Agreement ranging from 0.20% to 0.35% per annum of the average daily undrawn portion of the revolving commitments based on the Senior Secured Net Leverage Ratio. The interest rate on December 31, 2022 was 6.2%.

Any borrowings under the Credit Agreement may be repaid, in whole or in part, at any time and from time to time without premium or penalty other than customary breakage costs, and any amounts repaid may be reborrowed. No mandatory prepayments will be required other than when borrowings and letter of credit usage exceed the aggregate commitment of all lenders.

The Credit Agreement contains covenants requiring certain financial information to be submitted quarterly and annually. In addition, the Company is also required to comply with certain financial covenants such as maintaining a Net Leverage Ratio (as defined in the Credit Agreement) of 3.50:1.00 or lower and maintaining a minimum Interest Coverage Ratio (as defined in the Credit Agreement) of 2.50 to 1.00. As of December 31, 2022, the Company was in compliance with all covenants contained in the Credit Agreement.

	December 31,	
	2022	2021
Revolver	\$ 225,000	\$ 245,000
Less: Unamortized long-term debt issuance costs	(1,738)	(2,202)
Total carrying amount	\$ 223,262	\$ 242,798

Amortization expense related to debt issuance costs for the years ended December 31, 2022 and 2021 was \$464 and \$1,136 respectively. The Company recognized interest expense of \$9,055 and \$17,749 during the years ended December 31, 2022 and 2021 respectively. Amortization of debt issuance costs is recorded to interest expense, net on the Company's Consolidated Statements of Operations and Comprehensive Income (Loss).

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Future principal payments of long-term debt as of December 31, 2022 are as follows:

Year Ending December 31,	
2023	—
2024	—
2025	—
2026	225,000
Total principal payments	\$ 225,000

10. Income taxes

Integral Ad Science Holding LLC, filed a check the box election to be treated as a regarded entity for U.S. federal income tax purposes. The components of net income/(loss) before benefit from income taxes for the years ended December 31, 2022, 2021, and 2020 are as follows:

	December 31,		
	2022	2021	2020
United States	\$ 6,819	\$ (63,686)	\$ (50,764)
Foreign Operations	6,266	7,711	5,314
Net income (loss) before benefit from taxes	\$ 13,085	\$ (55,975)	\$ (45,450)

The components of the benefit from income taxes are as follows:

	December 31,		
	2022	2021	2020
Current tax (benefit) provision			
Federal	\$ 1,094	\$ 544	\$ (220)
Foreign	3,497	3,715	1,672
State and Local	2,001	1,865	784
Current tax benefit	6,592	6,124	2,236
Deferred tax (benefit) provision			
Federal	(661)	(5,812)	(8,467)
Foreign	(1,185)	(1,373)	102
State and local	(7,034)	(2,477)	(6,947)
Deferred tax benefit	(8,880)	(9,662)	(15,312)
Benefit from income taxes	\$ (2,288)	\$ (3,538)	\$ (13,076)

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The following table presents a reconciliation of the statutory federal rate and the Company's effective tax rate for the periods presented:

	December 31,		
	2022	2021	2020
U.S. federal statutory income tax rate	21.0%	21.0%	21.0%
State income taxes, net of federal benefit	(41.3)	1.7	13.9
Effect of non-U.S. operations	(0.7)	(0.4)	(0.3)
Section 162(m)	24.4	(10.9)	—
Stock-based compensation	23.8	(0.9)	—
Transaction expenses	(14.7)	(1.4)	—
US tax on foreign earnings	(6.5)	(5.7)	—
R&D and other credits	(23.3)	3.7	—
Change in valuation allowance	—	(1.0)	—
CARES Act ¹	—	—	(1.8)
Other	(0.2)	0.2	(4.0)
Benefit from income taxes	<u>(17.5)%</u>	<u>6.3%</u>	<u>28.8%</u>

The income tax benefit for December 31, 2022 relates primarily to R&D credit, favorable change in state tax rates, and deductible transaction costs. The income tax benefit for the years ended December 31, 2021 and 2020 relates principally to current period U.S. losses.

On August 16, 2022, Congress passed the Inflation Reduction Act of 2022. The key tax provisions applicable to us are a 15% corporate minimum tax on book income and a 1% excise tax on stock repurchases effective January 1, 2023. We do not expect these tax law changes to have a material impact on our consolidated financial position; however, we will continue to evaluate their impact as further information becomes available.

¹ In the U.S., on March 27, 2020, the President signed the CARES Act into law to provide economic stimulus during a country-wide shutdown.

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Deferred income taxes reflect the tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. The components of net deferred tax liability for the years ended December 31, 2022 and 2021 are as follows:

	December 31,	
	2022	2021
Deferred tax assets		
Net Operating Loss ("NOL") and other carryforwards	\$ 11,187	\$ 29,187
Stock-based compensation	4,886	7,962
Interest expense carryforward	3,774	7,528
Tax credit carryforward	3,032	2,447
Lease liability	7,582	2,237
Payroll and commissions	2,812	293
Allowance for doubtful accounts	1,764	343
Section 174 capitalized costs	8,573	—
Accrued expenses and other liabilities	1,231	32
Total deferred tax assets	44,841	50,029
Valuation allowance	(3,217)	(3,421)
Net deferred tax assets	41,624	46,608
Deferred tax liabilities		
Depreciation and amortization	(42,962)	(63,935)
Outside basis difference	(36,056)	(35,246)
Right of use asset	(6,080)	—
Capital lease assets	—	(62)
Total deferred tax liabilities	(85,098)	(99,243)
Net deferred tax liability	\$ (43,474)	\$ (52,635)

Deferred tax liabilities and assets are recognized for the expected future tax consequences of events that have been reflected in the consolidated financial statements. Deferred tax liabilities and assets are determined based on the differences between the book and tax bases of particular assets and liabilities, using tax rates in effect for the years in which the differences are expected to reverse. A valuation allowance is provided to offset deferred tax assets if, based upon the available evidence, it is more-likely-than-not that some or all of the deferred tax assets will not be realized. In evaluating our ability to recover deferred tax assets within the jurisdiction from which they arise, we consider all available positive and negative evidence, including scheduled reversals of deferred tax liabilities, projected future taxable income, tax-planning strategies, and results of recent operations. If we determine that we would not be able to realize our deferred tax assets in the future, we would record a valuation allowance, which would increase the provision for income taxes.

The Company evaluates the realizability of deferred tax assets on a jurisdictional basis at each reporting date. A valuation allowance is established when it is more likely than not that all or a portion of the deferred tax assets will not be realized. In circumstances where there is sufficient negative evidence indicating that the deferred tax assets are not realizable, the Company establishes a valuation allowance. The Company recorded valuation allowances in the amounts of \$3,217 and \$3,421 at December 31, 2022 and 2021, respectively. The Company recorded a valuation allowance against NOL carryforwards and foreign tax credits.

The Company has not provided for U.S. federal income and foreign withholding taxes on undistributed earnings from non-U.S. operations as of December 31, 2022 because the Company intends to reinvest such earnings indefinitely outside of the United States. If the Company were to distribute these earnings, foreign tax credits may become available under current law to reduce the resulting U.S. income tax liability. The amount of any unrecognized deferred tax liability related to these earnings is not practicable to determine.

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As of December 31, 2022, the Company had approximately \$10,000 as compared to \$79,800 as of December 31, 2021 in U.S. federal net operating losses and \$170,600 and \$164,300 as of December 31, 2022 and 2021 respectively, in state net operating losses. As a result of the Tax Cuts and Jobs Act, federal NOLs generated in tax years ending after December 31, 2017 are limited to a deduction of 80% of the taxpayer's taxable income. Furthermore, the post 2017 federal NOLs are subject to an indefinite carryforward period; therefore, \$10,000 and \$79,800 of as of December 31, 2022 and 2021, respectively, of the federal NOL may be carried forward indefinitely. The majority of the Company's state net operating loss carryforwards will begin to expire, if not utilized, in 2029. Not all states have conformed to the Tax Cuts and Jobs Act; therefore, there are some states with indefinite carryforward periods. The Company has foreign NOL carryforwards of approximately \$2,500 and \$9,500 at December 31, 2022 and 2021, respectively, the majority of which are indefinite lived.

The changes in valuation allowances against deferred income tax assets were as follows:

	December 31,	
	2022	2021
Balance at beginning of year	\$ 3,421	\$ —
Additions charged to income tax expense	296	815
Reductions credited to income tax expense	(500)	—
Additions charged to other accounts	—	2,606
Balance at end of year	<u>\$ 3,217</u>	<u>\$ 3,421</u>

Uncertain tax positions

The Company has adopted certain provisions of ASC 740, "Income Taxes," which prescribes a recognition threshold and measurement attribute for the recognition and measurement of tax positions taken or expected to be taken in income tax returns. The provisions also provide guidance on the de-recognition of income tax assets and liabilities, classification of current and deferred income tax assets and liabilities and accounting for interest and penalties associated with tax positions.

As of December 31, 2022, the Company had \$2,808 of unrecognized tax benefits, which represents an amount that, if recognized, would impact the effective tax rate in future periods. As of December 31, 2021, the Company had \$932 of unrecognized tax benefits. Accrued liabilities for interest and penalties were \$70 for December 31, 2022.

Unrecognized tax benefits activity is summarized below:

	December 31,	
	2022	2021
Balance at beginning of year	\$ 932	\$ —
Additions based on tax positions related to the current year	896	531
Additions based on tax positions related to prior years	980	401
Reductions due to lapse in status of limitations and settlements	—	—
Balance at end of year	<u>\$ 2,808</u>	<u>\$ 932</u>

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The Company and its subsidiaries file income tax returns in the U.S. federal jurisdiction, various U.S. state jurisdictions and several foreign jurisdictions. With few exceptions, the Company is no longer subject to U.S. federal, state and local, or non-U.S. income tax examinations by tax authorities for years prior to 2018. However, to the extent the Company generated NOLs or tax credits in closed tax years, future use of the NOL or tax credit carryforward balance would be subject to examination within the relevant statute of limitations for the year in which it was utilized. Given the uncertainty regarding when tax authorities will complete their examinations and the possible outcomes of their examinations, a current estimate of the range of reasonably possible significant increases or decreases of income tax that may occur within the next twelve months cannot be made. There are currently no income tax audits ongoing.

11. Segment data

Operating segments are defined as components of an enterprise about which separate financial information is available that is evaluated regularly by the chief operating decision maker (“CODM”), in deciding how to allocate resources and in assessing performance. The Company’s Chief Executive Officer is the CODM.

The Company manages its operations as a single segment for the purpose of assessing and making operating decisions. The Company’s CODM allocates resources and assesses performance based upon financial information at the consolidated level. Since the Company operates in one operating segment, all required financial segment information can be found in the consolidated financial statements.

The following table summarizes revenue by geographic area:

	December 31,		
	2022	2021	2020
Revenue:			
Americas	\$ 279,254	\$ 204,341	\$ 148,276
EMEA	96,679	86,187	67,691
APAC	32,415	32,985	24,666
Total	<u>\$ 408,348</u>	<u>\$ 323,513</u>	<u>\$ 240,633</u>

For the years ended December 31, 2022, 2021 and 2020, revenue in the U.S. was \$264,166, \$188,636 and \$142,118, respectively.

The following table summarizes long lived assets (including property and equipment, net and operating lease right-of-use assets), net by geographic area for the years ended December 31, 2022 and 2021:

	December 31,	
	2022	2021
Long lived assets:		
Americas	\$ 16,016	\$ 876
EMEA	6,419	181
APAC	2,764	356
Total	<u>\$ 25,199</u>	<u>\$ 1,413</u>

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12. Stock-based compensation

Integral Ad Science Holding Corp. Amended and Restated 2018 Non-Qualified Stock Option Plan

On August 1, 2018, the Company adopted the 2018 Non-Qualified Stock Option Plan ("2018 Plan"). Under the 2018 Plan, the Company had issued (i) Time-Based Options that vest over four years with 25% vesting after twelve months and an additional 6.25% vesting at the end of each successive quarter thereafter; and (ii) Return-Target Options that vest upon the first to occur of sale of the Company, or, sale or transfer to any third party of shares, as a result of which, any person or group other than Vista, obtains possession of voting power to elect a majority of the Company's board of directors or any other governing body and the achievement of a total equity return multiple of 3.0 or greater.

The 2018 Plan contained a provision wherein, the Time-Based Options can be repurchased by the Company at cost upon resignation of the employee. Due to this repurchase feature, the Time-Based Options did not automatically provide the employee with the potential benefits associated with a stock award holder, and therefore, these awards were not accounted for as a stock-based award under ASC 718, *Compensation - Stock Compensation* but instead, compensation cost was recognized when the benefit to the employee was determined to be probable.

The Return-Target Options were considered to contain both market (total stockholder return threshold) and performance (exit event) conditions. As such, the award was measured on the date of grant. Since the conditions for vesting related to the Return-Target Options were not met prior to the IPO, no stock-based compensation was recognized in the pre-IPO financial statements of the Company.

In connection with the Company's IPO, the 2018 Plan was amended and restated ("Amended and Restated 2018 Plan") with the following modifications: (i) the provision to repurchase the Time-Based Options at cost upon resignation of the employee was removed and (ii) the Return-Target Options were modified to include vesting upon a sale of shares by Vista following the IPO resulting in Vista realizing a cash return on its investment in the Company equaling or exceeding \$1.17 billion.

As a result of the modification to the Time-Based Options, the awards became subject to the guidance in ASC 718, *Compensation - Stock Compensation*. The fair value of the Time-Based Options under the 2018 Plan as of June 30, 2021, the modification date, was \$74,566. During the years ended December 31, 2022, and 2021 the Company recognized stock compensation expense of \$13,727 and \$47,296, respectively related to the Time-Based Options.

As the return multiple and vesting conditions associated with the Return-Target Options were also modified, the Company fair valued the Return-Target Options using a Monte Carlo simulation model which resulted in a fair value of \$36,395 on the modification date. The Return-Target Options become exercisable following both (i) a registration of shares of common stock held by Vista and (ii) Vista realizing a cash return on its investment in the Company equaling or exceeding \$1.17 billion. As of December 31, 2022, the condition relating to Vista's cash return was not deemed probable and therefore, no stock-based compensation expense was recognized relating to the Return-Target Options.

Vesting of the Time-Based Options accelerates when the Return-Target Options vest and therefore, recognition of the remaining unamortized stock compensation expense related to the Time-Based Options will accelerate when it becomes probable that the Return-Target Options would vest.

The total number of Time-Based Options and Return Target Options outstanding under the Amended and Restated 2018 Plan as of December 31, 2022 were 3,292,084 and 1,673,177, respectively. The Company does not expect to issue any additional awards under the Amended and Restated 2018 Plan.

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2021 Omnibus Incentive Plan (“2021 Plan”)

On June 29, 2021, the Company adopted the 2021 Plan to incentivize executive officers, management, employees, consultants and directors of the Company and to align the interests of the participants with those of the Company’s shareholders. As of December 31, 2022, there were 27,421,802 shares reserved for issuance under the 2021 Plan and the total number of shares reserved for issuance under the 2021 Plan will be increased on January 1 of each of the first 10 calendar years during the term of the 2021 Plan, by the lesser of (i) 5% of the total number of shares of common stock outstanding on each December 31 immediately prior to the date of increase or (ii) such number of shares of common stock determined by our Board or compensation committee.

During the years ended December 31, 2022 and 2021, the Company recognized stock compensation expense of \$3,094 and \$1,774, respectively related to the stock options. As of December 31, 2022, there are 1,439,293 total options outstanding under the 2021 Plan, consisting of 959,206 Time-Based Options and 480,087 Return-Target Options. The vesting conditions for the options issued under the 2021 Plan are identical to those described under the Amended and Restated 2018 Plan.

Time Based Service Option activity

Time Based Service Option activity is as follows:

	Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (years)	Intrinsic Value
Outstanding at December 31, 2021	6,648,975	\$ 7.46	7.76	\$ 98,055
Granted	—	—	—	—
Canceled or forfeited	(810,957)	10.04	—	—
Exercised	(1,586,728)	4.51	—	—
Outstanding at December 31, 2022	<u>4,251,290</u>	<u>\$ 8.07</u>	<u>6.97</u>	<u>\$ 12,163</u>
Vested and expected to vest as of December 31, 2022	4,251,290	\$ 8.07	6.97	\$ 12,163
Exercisable at December 31, 2022	3,033,235	\$ 6.34	6.59	\$ 10,878
	Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (years)	Intrinsic Value
Outstanding at December 31, 2020	6,109,427	\$ 4.82	8.47	\$ —
Granted	1,381,646	17.49	9.14	\$ —
Canceled or forfeited	(595,729)	4.95	—	\$ —
Exercised	(246,369)	4.36	—	\$ —
Outstanding at December 31, 2021	<u>6,648,975</u>	<u>\$ 7.46</u>	<u>7.76</u>	<u>\$ 98,055</u>
Vested and expected to vest as of December 31, 2021	6,648,975	7.46	7.76	\$ 98,055
Exercisable at December 31, 2021	3,169,868	4.47	6.20	\$ 56,227

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	Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (years)	Intrinsic Value
Outstanding at December 31, 2019	\$ 5,679,152	\$ 4.17	9.10	\$ —
Granted	1,628,068	6.77	9.60	—
Canceled or forfeited	(1,197,793)	4.34	—	—
Exercised	—	—	—	—
Outstanding at December 31, 2020	<u>6,109,427</u>	<u>\$ 4.82</u>	<u>8.47</u>	<u>\$ —</u>
Vested and expected to vest as of December 31, 2020	6,109,427	\$ 4.82	8.47	\$ —
Exercisable at December 31, 2020	1,848,880	\$ 4.17	8.16	\$ —

Return-Target Option activity

Return-Target Option activity is as follows:

	Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (years)	Intrinsic Value
Outstanding at December 31, 2021	3,265,126	\$ 7.53	7.27	\$ 47,947
Granted	—	—	—	—
Canceled or forfeited	(1,111,862)	6.54	—	—
Exercised	—	—	—	—
Outstanding at December 31, 2022	<u>2,153,264</u>	<u>\$ 8.03</u>	<u>6.97</u>	<u>\$ 6,190</u>
Vested and expected to vest as of December 31, 2022	2,153,264	\$ 8.03	6.97	\$ 6,190
Exercisable as of December 31, 2022	—	\$ —	—	\$ —

	Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (years)	Intrinsic Value
Outstanding at December 31, 2020	3,054,701	\$ 4.82	8.47	\$ —
Granted	691,306	17.49	9.14	—
Canceled or forfeited	(480,881)	4.69	—	—
Exercised	—	—	—	—
Outstanding at December 31, 2021	<u>3,265,126</u>	<u>\$ 7.53</u>	<u>7.27</u>	<u>\$ 47,947</u>
Vested and expected to vest as of December 31, 2021	3,265,126	\$ 7.53	7.27	\$ 47,947
Exercisable as of December 31, 2021	—	\$ —	—	\$ —

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	Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (years)	Intrinsic Value
Outstanding at December 31, 2019	2,839,574	\$ 4.17	9.10	\$ —
Granted	814,035	6.77	9.60	—
Canceled or forfeited	(598,908)	4.34	—	—
Exercised	—	—	—	—
Outstanding at December 31, 2020	3,054,701	\$ 4.82	8.47	\$ —
Vested and expected to vest as of December 31, 2020	3,054,701	\$ 4.82	8.47	\$ —
Exercisable as of December 31, 2020	—	\$ —	—	\$ —

As of December 31, 2022, unamortized stock-based compensation expense related to the Time-Based Options was \$12,411, which will be recognized over the weighted average vesting term of 2.11 years. In addition, unamortized stock-based compensation expense related to the Return-Target Options of \$26,108 will be recognized when events that trigger vesting are deemed probable.

Restricted Stock Units

The RSUs under the 2021 Plan granted before April 2022 vest 25% each year and become fully vested after 4 years of service. Beginning in April 2022, the majority of RSUs began vesting 6.25% at the end of each successive quarter and become fully vested after 4 years of service.

RSU activity for the years ended December 31, 2022 and 2021 is as follows:

	RSUs	
	Number of Shares	Weighted Average Grant Date Fair Value
Outstanding as of January 1, 2021	26,931	\$ 5.57
Granted	2,667,591	19.32
Canceled or forfeited	(241,444)	18.23
Vested	(26,931)	5.57
Outstanding as of December 31, 2021	2,426,147	\$ 19.43
Granted	8,050,276	\$ 10.78
Canceled or forfeited	(1,306,090)	16.17
Vested	(1,084,966)	15.48
Outstanding at December 31, 2022	8,085,367	11.88
Vested and expected to vest as of December 31, 2022	8,085,367	

During the years ended December 31, 2022, and 2021, the Company recognized \$22,548 and \$6,336 of stock-based compensation expense related to these RSU awards, respectively. Unamortized stock-based compensation expense related to RSUs as of December 31, 2022 was \$84,135, which will be recognized over the weighted average vesting term of 3.3 years.

Performance Stock Units

The Company granted Performance Stock Units (“PSUs”) under the 2021 Plan, which are contingent upon achieving specified revenue performance goals by December 31, 2023. As of December 31, 2022, no stock-based compensation expense has been recognized as performance vesting conditions were not deemed probable to occur. The unrecognized compensation expense is \$6,000 assuming performance at the highest tier.

INTEGRAL AD SCIENCE HOLDING CORP.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
(IN THOUSANDS, EXCEPT SHARE AND PER SHARE DATA)

Market Stock Units

The Company granted MSUs under the 2021 Plan to certain executive officers. MSUs vest over four years, 25% on the first anniversary of the vesting commencement date and 6.25% at the end of each quarter thereafter. The number of MSUs eligible to vest is based on the performance of the Company's common stock over each vesting period. The number of shares eligible to vest is calculated based on a payout factor. The payout factor is calculated by dividing the average closing price of the Company's stock during the ten trading days immediately preceding the applicable vesting date by the closing price of the Company's stock on the vesting commencement date. The payout factor is zero if the quotient is less than 0.60 and is capped at 2.25. This quotient is then multiplied by the target number of MSUs granted to the relevant officer to determine the number of shares to be issued to the officer at vesting. The grant date fair value of the MSUs was determined using a Monte-Carlo simulation. The Company uses the accelerated attribution method to account for these awards.

MSU activity for the year ended December 31, 2022 is as follows:

	MSUs	
	Number of Shares	Weighted Average Grant Date Fair Value
Outstanding as of January 1, 2022	—	\$ —
Granted	1,465,286	14.53
Canceled or forfeited	(256,024)	14.41
Vested	—	—
Outstanding at December 31, 2022	<u>1,209,262</u>	<u>\$ 14.55</u>
Vested and expected to vest as of December 31, 2022	<u>1,209,262</u>	

During the year ended December 31, 2022, the Company recognized stock-based compensation expense of \$5,070 related to the MSU awards. Unamortized stock-based compensation expense related to MSUs was \$12,526, which will be recognized over the weighted average vesting term of 3.6 years.

2021 Employee Stock Purchase Plan ("ESPP")

The Company adopted the ESPP for the primary purpose of incentivizing employees in future periods. As of December 31, 2022, 1,489,571 shares of common stock are reserved for issuance under the ESPP, and the number of shares available for issuance will be increased on January 1 of each calendar year beginning in 2022 and ending in and including 2031, by an amount equal to the lesser of (i) 1% of the shares outstanding on the final day of the immediately preceding calendar year and (ii) such smaller number of shares as is determined by our Board, subject to a maximum of 16,000,000 shares of our common stock for the portion of the ESPP intended to qualify as an employee stock purchase plan under Section 423 of the Internal Revenue Code. All Company employees and employees of designated subsidiaries are eligible to participate in the ESPP and can purchase shares through payroll deductions of up to 15% of their eligible compensation, subject to a maximum of \$25,000 in any annual period for the portion of the ESPP intended to qualify as an employee purchase plan under Section 423 of the Internal Revenue Code.

The ESPP provides eligible employees the opportunity to purchase shares of the Company's common stock through payroll deductions at a price equal to 85% of the fair market value of the shares on the first business day of the offering period or the last business day of the offering period, whichever is lower. The six month offering under the ESPP commenced on August 1, 2022. There are no shares issued under the ESPP plan as of December 31, 2022. Stock-based compensation expense recognized in the year ended December 31, 2022 was \$313.

INTEGRAL AD SCIENCE HOLDING CORP.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
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Total stock-based compensation expense for all equity arrangements for the years ended December 31, 2022, 2021, and 2020 were as follows:

	December 31,		
	2022	2021	2020
Cost of revenue	\$ 507	\$ 86	\$ —
Sales and marketing	13,520	16,090	—
Technology and development	9,937	11,196	—
General and administrative	20,788	31,395	—
Total	<u>\$ 44,752</u>	<u>\$ 58,766</u>	<u>\$ —</u>

13. Members'/Stockholders' equity

As discussed in Note 1, "Description of business," the Company converted to a Delaware corporation, which created new elements of the capital structure on June 30, 2021, and modified existing elements of the capital structure in place on December 31, 2020.

Common stock

As of December 31, 2022, our authorized common stock consists of 500,000,000 shares of common stock, par value \$0.001 per share and 50,000,000 preferred stock, par value \$0.001 per share.

During the year ended December 31, 2022, the Company issued 1,084,966 shares of common stock for vested RSUs and employees exercised stock options in exchange for 1,586,728 shares of common stock for \$7,155. During the year ended December 31, 2022, the Company repurchased 3,080,061 shares of common stock for \$23,655. The repurchase in excess of par value for the year ended December 31, 2022 were \$23,652.

During the year ended December 31, 2021, the Company issued and sold 15,000,000 shares of common stock in connection with the closing of its IPO on July 2, 2021 and 1,821,330 shares of common stock in connection with the exercise of the underwriters' option to purchase additional shares that closed on July 28, 2021. The Company issued 2,888,889 shares of common stock in connection with its acquisition of Publica, and 457,959 shares of common stock in connection with its acquisition of Context. During the year ended December 31, 2021, the Company also issued 26,931 shares of common stock for vested RSUs.

Members' equity

Prior to the IPO, the Company was a single member LLC, and the Company's Board of Directors, through the Kavacha Topco, LLC Amended and Restated Limited Liability Company Agreement (the "Operating Agreement"), had the authority to admit additional members. Under the terms of the Operating Agreement, the members of the Company were not obligated for debt, liabilities, contracts or other obligations of the Company. Profits and losses are allocated to members as defined in the Operating Agreement.

In conjunction with the pricing of the IPO, the Operating Agreement was terminated, and the Company converted from a Delaware domestic limited liability company to a Delaware domestic corporation. All outstanding member units were converted into 134,203,403 shares of common stock of the Company on a proportion of 1 member unit for 242 shares of common stock.

For the year ended December 31, 2021, the Company repurchased 99,946 shares of common stock from members of the Company prior to the IPO, for \$1,204. The repurchases in excess of par value for the year ended December 31, 2021 were \$791. The repurchase of shares has been accounted for as a reduction in members'/shareholders' equity in these consolidated financial statements. For the year ended December 31, 2021, the Company also issued 17,486 shares of common stock from members of the Company prior to the IPO, for vested RSUs and issued 246,369 shares of common stock from members of the Company prior to the IPO for options exercised during the year, for \$4,435. The Company received proceeds of \$3,360 from the exercise.

INTEGRAL AD SCIENCE HOLDING CORP.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
(IN THOUSANDS, EXCEPT SHARE AND PER SHARE DATA)

For the year ended December 31, 2020, the Company repurchased 35,090 shares of common stock from members of the Company, for \$167. The repurchases in excess of par value for the year ended December 31, 2020 was \$22. The repurchase of shares has been accounted for as a reduction in members'/shareholders' equity in these consolidated financial statements. For the year ended December 31, 2020, the Company also issued 39,980 shares of common stock from members of the Company prior to the IPO for vested RSUs.

14. Leases

The Company leases office spaces under non-cancelable lease terms and has a remaining lease term of up to 9.8 years, with a number of month-to-month leases that are accounted for as short-term leases. The weighted-average remaining term of the Company's operating leases was 4.8 years as of December 31, 2022. The weighted-average discount rate used to measure the present value of the operating lease liabilities was 5.5% as of December 31, 2022.

The following table presents components of lease cost recorded in the Condensed Consolidated Statement of Operations and Comprehensive Income (Loss) for the year ended December 31, 2022.

	<u>December 31, 2022</u>	
Lease costs:		
Operating lease costs	\$	7,141
Short-term lease costs		3,393
Variable lease costs		395
Sublease income		(2,624)
Total lease costs	<u>\$</u>	<u>8,306</u>

For the year ended December 31, 2022, operating cash flows included \$7,746 of cash paid for operating lease liabilities and \$1,345 received from the sublease. As of December 31, 2022, there were no material operating leases that have not yet commenced.

As of December 31, 2022, the company has provided \$2,275 in security deposits, recorded within Other long-term assets on the Company's Consolidated Balance Sheets.

As of December 31, 2022, the maturities of remaining lease payments included in the measurement of operating leases are as follows:

<u>Year Ended December 31,</u>	
2023	\$ 7,780
2024	7,232
2025	7,309
2026	6,084
2027	2,093
Thereafter	3,933
Total lease payments	<u>34,430</u>
Less: imputed interest	\$ (4,806)
Total operating lease liability	<u>\$ 29,624</u>

INTEGRAL AD SCIENCE HOLDING CORP.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
(IN THOUSANDS, EXCEPT SHARE AND PER SHARE DATA)

15. Commitments and contingencies***Indemnifications***

In its normal course of business, the Company has made certain indemnities, commitments, and guarantees under which it may be required to make payments in relation to certain transactions. Those indemnities include intellectual property indemnities to the Company's customers, indemnities to directors and officers of the Company to the maximum extent permitted under the laws of the State of Delaware, and indemnifications related to the Company's lease agreements. In addition, the Company's advertiser and distribution partner agreements contain certain indemnification provisions which are generally consistent with those prevalent in the Company's industry. The Company has not incurred any obligations under indemnification provisions historically and does not expect to incur significant obligations in the future. Accordingly, the Company has not recorded any liability for these indemnities, commitments, and guarantees in the accompanying balance sheets.

Facility Exit Costs

In December 2021, the Company vacated its New York Corporate Headquarters and agreed to a sublease agreement through the remainder of the lease term. In connection with these actions, the Company recognized a cease-use liability in accordance with ASC 420, *Exit or Disposal Cost Obligations*, for costs that would continue to be incurred under the terms of the lease without any economic benefit. The fair value of the cease-use liability of \$6,987 was estimated at the cease-use date based on the remaining lease payments, reduced by future sublease income, adjusted for the remaining balance of deferred rent of \$1,216, and offset by commission on sublease of \$747. This resulted in a facility exit charge of \$6,519 recorded to 'Facility exit costs' within the Consolidated Statements of Operations and Comprehensive Income (Loss).

In December 2021, the Company recognized the cease-use liability of \$1,298 in 'Accounts payable and accrued expenses' and \$5,689, in 'Other long-term liabilities.' Refer to Note 8, "Accounts payable and accrued expenses and other long-term liabilities," for details. In addition to the cease-use liability, the Company also recognized an impairment write-down of \$132 for furniture and equipment which was no longer expected to be used in operations.

As a result of the Company adopting ASC 842, the cease-use liability was combined into the initial ROU assets and lease liabilities recorded to the Consolidated Balance Sheets. Refer to Note 2(v), Basis of presentation and significant accounting policies, for additional information.

Purchase commitments

In the ordinary course of business, the Company enters into various purchase commitments primarily related to third-party cloud hosting and data services, and information technology operations. Total non-cancelable purchase commitments as of December 31, 2022 were approximately \$104,444 for periods through 2026.

16. Employee contribution plans

The Company is a sponsor of certain qualified defined contribution plans covering all eligible employees. Such plans provide for matching contributions and in certain plans profit-sharing contributions. The Company made matching contributions of \$4,062 and \$2,474 for the years ended December 31, 2022 and 2021, respectively.

17. Net income (loss) per share

For periods prior to the Company's conversion to a Delaware corporation, including fiscal 2021 for which a portion of the period preceded the conversion, the Company has retrospectively presented net income (loss) per share as if the conversion had occurred at the beginning of the earliest period presented. The weighted average shares used in computing net income (loss) per share in these periods are based on the number of units held by members after giving effect to the conversion ratio.

INTEGRAL AD SCIENCE HOLDING CORP.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
(IN THOUSANDS, EXCEPT SHARE AND PER SHARE DATA)

Basic and diluted loss per share is computed by dividing net income (loss) by the weighted-average shares outstanding:

	December 31,		
	2022	2021	2020
Numerator:			
Net income (loss)	\$ 15,373	\$ (52,437)	\$ (32,374)
Denominator:			
Basic Shares:			
Weighted average shares outstanding	154,699,694	143,535,546	134,044,284
Diluted Shares:			
Basic weighted average shares outstanding	154,699,694	143,535,546	134,044,284
Dilutive effect of stock based awards	2,558,389	—	—
Weighted-average diluted shares outstanding	157,258,083	143,535,546	134,044,284
Net income (loss) per share, basic and diluted	\$ 0.10	\$ (0.37)	\$ (0.24)

The following potential outstanding Time-Based Service Options and RSUs were excluded from the computation of diluted net income (loss) per share attributable to common stock/unit-holders for the years presented because including them would have been antidilutive. Since the conditions associated with the vesting of the Return Target Options, RSUs and MSUs have not occurred as of the reporting date, such options are excluded from the table below.

	December 31,		
	2022	2021	2020
Options to purchase common stock/member units	4,464,179	6,648,975	6,109,427
RSUs	1,834,100	2,426,147	—
MSUs	417,010	—	—
Total	6,715,289	9,075,122	6,109,427

18. Fair value disclosures

Financial instruments

The carrying value of cash and cash equivalents, restricted cash, accounts receivable and accounts payable approximated fair value due to their short maturities. The carrying value of long-term debt approximates its fair value based on Level 2 inputs as the principal amounts outstanding are subject to variable interest rates that are based on market rates (see Note 9, "Long-term debt").

19. Related-party transactions

The Company incurs expenses for consulting services and other expenses related to services provided by Vista Consulting Group, LLC ("VCG"). Total expenses incurred by the Company for VCG (a Vista related party) were \$77, \$201 and \$929 for the years ended December 31, 2022, 2021 and 2020. These costs were included in general and administrative expenses. There were no amounts due to VCG as of December 31, 2022 and 2021.

The Company incurs various travel and other expenses related to services provided by Vista Equity Partners Management, LLC ("VEP"). The Company incurred expenses of \$75, \$27 and \$134 during the years ended December 31, 2022, 2021 and 2020, respectively, for various travel and other expenses. These costs were included in general and administrative expenses. Amounts due to VEP were \$13 and \$0 as of December 31, 2022 and 2021, respectively.

INTEGRAL AD SCIENCE HOLDING CORP.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
(IN THOUSANDS, EXCEPT SHARE AND PER SHARE DATA)

The Company had other related party transactions with companies owned by Vista that are immaterial individually and in the aggregate to the Consolidated Balance Sheets and Consolidated Statement of Operations and Comprehensive Income (Loss).

20. Restructuring

In December 2022, the Company announced a reduction in workforce of approximately 120 employees to better align resources, consistent with the Company's strategy of increasing operational efficiency and improving productivity. The Company expects to complete within the next six months.

The Company recognizes a liability and the related expense for these restructuring costs when the liability is incurred and can be measured. Restructuring accruals are based upon management estimates at the time and can change depending upon changes in facts and circumstances subsequent to the date the original liability was recorded.

The restructuring charge was recorded as follows:

	<u>December 31, 2022</u>
Cost of revenue	128
Sales and marketing	1,248
Technology and development	3,114
General and administrative	805
Total	<u>\$ 5,295</u>

As of December 31, 2022, \$980 had been paid and a restructuring reserve of \$4,315 was recorded within Accounts payable and accrued expenses on the Consolidated Balance Sheets and is expected to be paid within the next twelve months.

INTEGRAL AD SCIENCE HOLDING CORP.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
(IN THOUSANDS, EXCEPT SHARE AND PER SHARE DATA)

21. Condensed Financial Information of Registrant (Parent Company Only)

INTEGRAL AD SCIENCE HOLDING CORP.
(PARENT COMPANY ONLY)
CONDENSED BALANCE SHEETS

(IN THOUSANDS, EXCEPT SHARE DATA)	December 31,	
	2022	2021
ASSETS		
Current assets:		
Cash and cash equivalents	\$ —	\$ —
Total current assets	—	—
Investment in subsidiaries	808,216	767,190
Total assets	\$ 808,216	\$ 767,190
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities		
Total current liabilities	—	—
Total liabilities	—	—
Commitments and Contingencies (Note 15)		
Members'/Stockholders' Equity		
Units, \$0 par value, 0 units authorized at December 31, 2022, 0 units issued and outstanding at December 31, 2022 and 2021	—	—
Common Stock, \$0.001 par value, 500,000,000 shares authorized at December 31, 2022, 153,990,128 and 154,398,495 shares issued and outstanding at December 31, 2022 and 2021, respectively	154	154
Additional paid-in-capital	810,186	781,951
Accumulated other comprehensive (loss) income	(2,899)	(315)
Accumulated earnings (deficit) ⁽¹⁾	775	(14,600)
Total stockholders' equity	808,216	767,190
Total liabilities and stockholders' equity	\$ 808,216	\$ 767,190

⁽¹⁾ Balances prior to the Company's conversion to a Delaware corporation have been reclassified to additional paid-in capital to give effect to the corporate conversion described in Note 1.

INTEGRAL AD SCIENCE HOLDING CORP.
(PARENT COMPANY ONLY)
CONDENSED STATEMENTS OF OPERATIONS

	Year Ended December 31,		
	2022	2021	2020
Revenue	\$ —	—	—
Operating expenses	—	—	—
Operating income	—	—	—
Interest income, net	—	—	—
Income before provision for income taxes and equity in net income of subsidiaries	—	—	—
Benefit from income taxes	—	—	—
Equity in net income (loss) of subsidiaries	15,373	(52,437)	(32,374)
Net income (loss)	\$ 15,373	\$ (52,437)	\$ (32,374)

INTEGRAL AD SCIENCE HOLDING CORP.
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
(IN THOUSANDS, EXCEPT SHARE AND PER SHARE DATA)

INTEGRAL AD SCIENCE HOLDING CORP.
(PARENT COMPANY ONLY)
CONDENSED STATEMENT OF COMPREHENSIVE INCOME (LOSS)

	Year Ended December 31,		
	2022	2021	2020
Net income (loss)	\$ 15,373	\$ (52,437)	\$ (32,374)
Other comprehensive loss, net of tax:	—	—	—
Subsidiaries' other comprehensive (loss) income	(2,584)	(4,838)	4,348
Total other comprehensive (loss) income	(2,584)	(4,838)	4,348
Total comprehensive loss	\$ 12,789	\$ (57,275)	\$ (28,026)

Business and basis of presentation

Description of business

The Company owns 100% of Kavacha Intermediate, LLC, which owns 100% of Kavacha Holdings, Inc, which owns 100% of Integral Ad Science, Inc.

The Company, formerly known as Kavacha Topco, LLC, is a holding company with no material operations of its own, no direct outstanding debt obligations and it conducts substantially all its activities through its subsidiaries. The Company's wholly owned subsidiaries are subject to the terms and restrictions in the Credit Agreement and prior to September 29, 2021, they were subject to the restrictions in the Prior Credit Agreement. Included in the Credit Agreement and Prior Credit Agreement are terms that limit the ability of the borrower, Integral Ad Science, Inc., to pay dividends or lend to the Company. Those limitations are subject to certain exceptions as defined in the Credit Agreement and prior to September 29, 2021, as defined in the Prior Credit Agreement. The Credit Agreement and the Prior Credit Agreement limits the ability of Integral Ad Science Inc. and the Company's subsidiaries to, among other things, pay dividends or distributions, incur additional debt, incur liens on assets, enter into certain investments, loans or advances, and enter into merger or consolidation agreements. As a result of the aforementioned restrictions, substantially all of the assets of the Company's subsidiaries are restricted.

Basis of presentation

These condensed financial statements have been presented on a "parent-only" basis. Under a parent-only presentation, the parent's investments in subsidiaries are presented under the equity method of accounting. A condensed statement of cash flows was not presented because the parent has no material operating, investing, or financing cash flow activities for the years ended December 31, 2022, 2021 and 2020. Certain information and footnote disclosures normally included in financial statements prepared in accordance with GAAP have been condensed or omitted. As such, these parent-only statements should be read in conjunction with the accompanying notes to the consolidated financial statements.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act as of December 31, 2022.

Our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were not effective at a reasonable assurance level as of December 31, 2022 due to the material weaknesses in our internal control over financial reporting described below.

Management's Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) of the Exchange Act). Management, including our chief executive officer and chief financial officer, evaluated the effectiveness of our internal control over financial reporting as of December 31, 2022, based on the framework set forth in Internal Control-Integrated Framework (2013), issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, management concluded that our internal control over financial reporting was not effective as of December 31, 2022 due to the material weaknesses in our internal control over financial reporting described below.

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of a company's annual or interim financial statements will not be prevented or detected on a timely basis.

We previously identified material weaknesses in our internal control over financial reporting that continue to exist. We did not design policies to maintain evidence of the operation of key control procedures, nor were monitoring controls evidenced at a sufficient level to provide the appropriate oversight of activities related to our internal control over financial reporting. Additionally, we did not design and maintain controls to ensure (i) appropriate segregation of duties in the operation of manual controls and (ii) account reconciliations, journal entries, and balance sheet and income statement fluctuation analyses were reviewed at the appropriate level of precision. In addition, the Company did not design and maintain effective controls over information technology, or IT, general controls for information systems that are relevant to the preparation of the consolidated financial statements. Specifically, we did not design and maintain (i) program change management controls for financial systems to ensure that IT program and data changes affecting financial IT applications and underlying accounting records are identified, tested, authorized and implemented appropriately, (ii) user access controls to ensure appropriate segregation of duties and that adequately restrict user and privileged access to financial applications, programs, and data to appropriate personnel, (iii) computer operations to ensure that critical batch jobs are monitored, privileges are appropriately granted, and data backups are authorized and monitored, and (iv) testing and approval controls for program development to ensure that new software development is aligned with business and IT requirements for financially relevant IT systems. These deficiencies did not result in a misstatement to the financial statements; however, these deficiencies could result in misstatements to our consolidated financial statements that would be material and would not be prevented or detected on a timely basis.

Our independent registered public accounting firm, PricewaterhouseCoopers LLP, was not required to perform an evaluation of our internal control over financial reporting as of December 31, 2022 because as an "emerging growth company" we are exempt from Section 404(b) of the Sarbanes-Oxley Act of 2002.

Management's Remediation Efforts

We are continuing to implement measures to remediate the identified material weaknesses. The measures include (i) formalizing our accounting policies with respect to maintaining evidence in the operation of control procedures, (ii) improving our control framework to include both the appropriate segregation of duties and definition around the appropriate levels of precision for controls, including account reconciliations, journal entries, and balance sheet and income statement fluctuation analyses, and (iii) designing and documenting the execution of IT general controls for systems and applications relevant to internal control over financial reporting, specifically around user access, change management, computer operations, and program development controls.

During the year ended December 31, 2022, we undertook a series of actions toward remediating the material weaknesses with the following actions designed to strengthen our control environment:

- Engaged a global accounting advisory firm to assist with the documentation, evaluation, remediation and testing of our internal control over financial reporting;
- Hired experienced personnel to oversee our internal controls program and work with management in its design and implementation of internal control over financial reporting;
- Formalized our control framework and established the ongoing testing program in compliance with the Sarbanes-Oxley Act of 2002, as amended, that supports Management's assessment of internal controls;
- Delivered periodic training to our team members on internal controls over financial reporting;
- Developed detailed action plans to address control deficiencies identified across business processes and financial systems impacting our financial reporting.

While we believe that these efforts will improve our internal control over financial reporting, we will not be able to conclude whether the steps we are taking will remediate the material weaknesses in our internal control over financial reporting until we have completed our remediation efforts and subsequent evaluation of their effectiveness.

As of December 31, 2022, there were instances where controls had not yet operated for a sufficient period of time to conclude they are effective as of year-end. In addition, there are additional remedial actions in progress to further enhance systems and the related controls that support our internal control over financial reporting. These actions are subject to ongoing senior management review as well as audit committee oversight and we may conclude that additional measures are required to remediate the material weaknesses. We will continue to monitor progress and make any changes to the remediation plan as necessary.

While we are performing remediation activities to strengthen our controls, the material weaknesses will not be considered remediated until management completes the design and implementation of the measures described above and the controls operate for a sufficient period of time and management has concluded, through testing, that these controls are effective. We will continue to monitor the effectiveness of our remediation measures in connection with our future assessments of the effectiveness of internal control over financial reporting and disclosure controls and procedures, and we will make any changes to the remediation plan and take such other actions that we deem appropriate given the circumstances.

Changes in Internal Control over Financial Reporting

Except as disclosed above, there have been no changes in our internal control over financial reporting that occurred during the quarter ended December 31, 2022 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations on Effectiveness of Controls

Because of its inherent limitations, disclosure controls and procedures and internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Item 9B. Other Information

Not applicable.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

Not applicable.

PART III.

Item 10. Directors, Executive Officers and Corporate Governance

Executive Officers and Directors

The information required by this item will be contained in our definitive proxy statement to be filed with the SEC in connection with our 2023 annual meeting of stockholders, which is expected to be filed no later than 120 days after the end of our fiscal year ended December 31, 2022 (the "Proxy Statement"), and is incorporated herein by reference.

Item 11. Executive Compensation

The information required by this item will be set forth in the Proxy Statement and is incorporated herein by reference.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required by this item will be set forth in the Proxy Statement and is incorporated herein by reference.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this item will be set forth in the Proxy Statement and is incorporated herein by reference.

Item 14. Principal Accounting Fees and Services

The information required by this item will be set forth in the Proxy Statement and is incorporated herein by reference.

PART IV.

Item 15. Exhibits and Financial Statement Schedules

Documents filed as part of this Annual Report on Form 10-K are as follows:

1. Consolidated Financial Statements

Our Consolidated Financial Statements are listed in the "Index to Consolidated Financial Statements" under Part II, Item 8 of this Annual Report on Form 10-K.

2. Financial Statement Schedules

Financial statement schedules have been omitted because they are not required, not applicable, not present in amounts sufficient to require submission of the schedule, or the required information is shown in the Consolidated Financial Statements or notes thereto.

3. Exhibits

The following documents are incorporated by reference or are filed with this Annual Report on Form 10-K, in each case as indicated therein.

Exhibits and Financial Statement Schedules.

(i) Exhibits

Exhibit Number	Description
2.1*	Securities Purchase Agreement, dated August 9, 2021, by and among Integral Ad Science, Inc., Publica LLC, Publica Investors LLC, NBIC Finance Sarl, Alpine Road Investors LLC and certain individuals thereto (incorporated by reference to Exhibit 2.1 to the Company's Form 8-K filed on August 10, 2021).
3.1	Certificate of Incorporation of Integral Ad Science Holding Corp., dated June 29, 2021 (incorporated by reference to Exhibit 3.1 to the Company's Form 8-K filed on July 2, 2021).
3.2	Bylaws of Integral Ad Science Holding Corp., dated June 29, 2021 (incorporated by reference to Exhibit 3.2 to the Company's Form 8-K filed on July 2, 2021).
4.1	Description of the Company's capital stock (incorporated by reference to Exhibit 4.1 to the Company's Annual Report on Form 10-K filed on March 3, 2022).
4.2	Registration Rights Agreement, dated July 2, 2021, by and among the Company and the other signatories party thereto (incorporated by reference to Exhibit 4.1 to the Company's Form 8-K filed on July 2, 2021).
10.1	Director Nomination Agreement, dated as of July 2, 2021, by and among the Company and the other signatories party thereto (incorporated by reference to the Company's Exhibit 10.1 to the Company's Form 8-K filed on July 2, 2021).
10.2+	Integral Ad Science Holding Corp. 2021 Omnibus Incentive Plan (incorporated by reference to Exhibit 10.3 to the Company's Registration Statement on Form S-1 (no. 333-256770), filed with the Commission on June 14, 2021).
10.3+	Integral Ad Science Holding Corp. Amended and Restated 2018 Non-Qualified Stock Option Plan (incorporated by reference to Exhibit 10.6 to the Company's Registration Statement on Form S-1 (No. 333-256770), filed with the Commission on June 14, 2021).
10.4	Integral Ad Science Holding Corp. 2021 Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.4 to the Company's Registration Statement on Form S-8 (No. 333-256719), filed with the Commission on July 1, 2021).
10.5	Amendment No. One to the Integral Ad Science Holding Corp. 2021 Employee Stock Purchase Plan, effective as of August 1, 2022 (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q, filed with the Commission on August 4, 2022).
10.6	Credit Agreement, dated as of September 29, 2021, by and among Integral Ad Science, Inc., as borrower, Kavacha Holdings, Inc., as a guarantor, the other loan parties thereto, the lenders party thereto and PNC Bank, National Association, as administrative agent (incorporated by reference to Exhibit 10.1 to the Company's Form 8-K filed on September 29, 2021).
10.7+	Form of Restricted Stock Unit Notice and Agreement (incorporated by reference to Exhibit 10.5 to the Company's Registration Statement on Form S-1 (No. 333-256770), filed with the Commission on June 14, 2021).
10.8+	Form of Stock Option Award Agreement (incorporated by reference to Exhibit 10.2 to the Company's Registration Statement on Form S-1 (No. 333-256619), filed with the Commission on July 1, 2021).
10.9+	Form of Stock Option Award Notice (incorporated by reference to Exhibit 10.4 to the Company's Registration Statement on Form S-1 (No. 333-256770), filed with the Commission on June 21, 2021).
10.10+	Form of Indemnification Agreement (incorporated by reference to Exhibit 10.8 to the Company's Registration Statement on Form S-1 (No. 333-256770), filed with the Commission on June 14, 2021).
10.11+	Employment Agreement with Lisa Utzschneider, dated December 3, 2019 (incorporated by reference to Exhibit 10.11 to the Company's Registration Statement on Form S-1 (No. 333-256770), filed with the Commission on June 4, 2021).
10.12+	Employment Agreement with Joseph Pergola, dated October 30, 2019 (incorporated by reference to Exhibit 10.12 to the Company's Registration Statement on Form S-1 (No. 333-256770), filed with the Commission on June 4, 2021).
10.13+	Amendment No. 1 to Employment Agreement with Joseph Pergola, dated October 30, 2019 (incorporated by reference to Exhibit 10.13 to the Company's Registration Statement on Form S-1 (No. 333-256770), filed with the Commission on June 4, 2021).
10.14+	Separation Agreement and Release of Claims, dated as of May 25, 2022, by and between Joseph Pergola and Integral Ad Science, Inc. (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Commission on May 26, 2022).
10.15+	Employment Agreement with Kshitiij Sharma, dated September 29 2020 (incorporated by reference to Exhibit 10.14 to the Company's Registration Statement on Form S-1 (No. 333-256770), filed with the Commission on June 4, 2021).
10.16+	Employment Agreement with Oleg Bershadsky, dated February 14, 2019 (incorporated by reference to Exhibit 10.15 to the Company's Registration Statement on Form S-1 (No. 333-256770), filed with the Commission on June 4, 2021).
10.17+	Amendment No. 1 to Employment Agreement with Oleg Bershadsky, dated February 14, 2019 (incorporated by reference to Exhibit 10.16 to the Company's Registration Statement on Form S-1 (No. 333-256770), filed with the Commission on June 4, 2021).

- 10.18+ [Employment Agreement dated as of September 11, 2022, by and between Integral Ad Science, Inc. and Tania Secor \(incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q, filed with the Commission on November 10, 2022\).](#)
 - 10.19+ [Amendment No. 1 to Employment Agreement, dated as of October 21, 2022, by and between Integral Ad Science, Inc. and Tania Secor \(incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q, filed with the Commission on November 10, 2022\).](#)
 - 10.20 [First Amendment to Lease Agreement, between Brickman 95 Morton LLC and Integral Ad Science, Inc., dated March 25, 2016 \(incorporated by reference to Exhibit 10.19 to the Company's Registration Statement on Form S-1 \(No. 333-256770\), filed with the Commission on June 4, 2021\).](#)
 - 21.1 [List of subsidiaries of the registrant.](#)
 - 23.1 [Consent of PricewaterhouseCoopers LLP, independent registered public accounting firm, filed herewith.](#)
 - 31.1** [Certification of the Chief Executive Officer pursuant to Exchange Act Rules Rule 13a-14\(a\), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002, filed herewith.](#)
 - 31.2** [Certification of the Chief Financial Officer pursuant to Exchange Act Rules Rule 13a-14\(a\), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002, filed herewith.](#)
 - 32.1 [Certification of the Chief Executive Officer pursuant to 18 U.S.C. Section 1350, furnished herewith.](#)
 - 32.2 [Certification of the Chief Financial Officer pursuant to 18 U.S.C. Section 1350, furnished herewith.](#)
 - 101.INS Inline XBRL Instance Document
 - 101.SCH Inline XBRL Taxonomy Extension Schema Document
 - 101.CAL Inline XBRL Taxonomy Extension Calculation Linkbase Document
 - 101.DEF Inline XBRL Taxonomy Extension Definition Linkbase Document
 - 101.LAB Inline XBRL Taxonomy Extension Label Linkbase Document
 - 101.PRE Inline XBRL Taxonomy Extension Presentation Linkbase Document
 - 104 Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101)
- * Schedules have been omitted pursuant to Item 601(a)(5) of Regulation S-K. A copy of any omitted schedule will be furnished to the SEC upon request; provided, however, that the parties may request confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended, for any document so furnished.
- ** The certifications furnished in Exhibit 32.1 and Exhibit 32.2 hereto are deemed to accompany this Annual Report on Form 10-K and will not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, except to the extent that the registrant specifically incorporates it by reference.
- + Indicates a management contract or compensatory plan or arrangement.

Item 16. Form 10-K Summary

None.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized.

Dated: March 2, 2023

Integral Ad Science Holding Corp.

By: /s/ Lisa Utzschneider
Name: Lisa Utzschneider
Title: Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, this Report has been signed by the following persons in the capacities indicated as of March 2, 2023.

<u>Signature</u>	<u>Title</u>
<u>/s/ Lisa Utzschneider</u> Lisa Utzschneider	Chief Executive Officer and Director (Principal Executive Officer)
<u>/s/ Tania Secor</u> Tania Secor	Chief Financial Officer (Principal Financial Officer)
<u>/s/ Anil Sukumaran</u> Anil Sukumaran	Chief Accounting Officer (Principal Accounting Officer)
<u>/s/ Rod Aliabadi</u> Rod Aliabadi	Director
<u>/s/ Otto Berkes</u> Otto Berkes	Director
<u>/s/ Michael Fosnaugh</u> Michael Fosnaugh	Director and Chair of the Board
<u>/s/ Bridgette Heller</u> Bridgette Heller	Director
<u>/s/ Christina Lema</u> Christina Lema	Director
<u>/s/ Brooke Nakatsukasa</u> Brooke Nakatsukasa	Director
<u>/s/ Jill Putman</u> Jill Putman	Director
<u>/s/ Martin Taylor</u> Martin Taylor	Director

Subsidiaries of Integral Ad Science Holding Corp.

Company Name	Jurisdiction of Formation
Subsidiaries included in consolidated financial statements*	
Integral Ad Science UK, Limited	UK
Integral Ad Science, Inc.	Delaware
Publica LLC	Delaware

*Twenty eight subsidiaries, whose names are omitted, considered in the aggregate as a single subsidiary, would not constitute a significant subsidiary.

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Exhibit 23.1

We hereby consent to the incorporation by reference in the Registration Statement on Form S-8 (No. 333-256770) of Integral Ad Science Holding Corp. of our report dated March 2, 2023 relating to the financial statements, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP
New York, New York
March 2, 2023

Certification Pursuant to Section 302 of Sarbanes-Oxley Act of 2002

I, Lisa Utzschneider, certify that:

1. I have reviewed this Annual Report on Form 10-K of Integral Ad Science Holding Corp.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - c. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 2, 2023

/s/ Lisa Utzschneider

Lisa Utzschneider

Director and Chief Executive Officer

Certification Pursuant to Section 302 of Sarbanes-Oxley Act of 2002

I, Tania Secor, certify that:

1. I have reviewed this Annual Report on Form 10-K of Integral Ad Science Holding Corp.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - c. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 2, 2023

/s/ Tania Secor

Tania Secor

Chief Financial Officer

Certification of the Chief Executive Officer

Pursuant to Rule 18 U.S.C. Section 1350

In connection with the Annual Report on Form 10-K of Integral Ad Science Holding Corp. (the "Company") for the year ended December 31, 2022, as filed with the U.S. Securities and Exchange Commission (the "Report"), I, Lisa Utzschneider, Chief Executive Officer of the Company, hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 2, 2023

/s/ Lisa Utzschneider

Lisa Utzschneider

Director and Chief Executive Officer

Certification of the Chief Financial Officer

Pursuant to Rule 18 U.S.C. Section 1350

In connection with the Annual Report on Form 10-K of Integral Ad Science Holding Corp. (the "Company") for the year ended December 31, 2022, as filed with the U.S. Securities and Exchange Commission (the "Report"), I, Tania Secor, Chief Financial Officer of the Company, hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: March 2, 2023

/s/ Tania Secor

Tania Secor

Chief Financial Officer