# 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: 001-39092**

# SHAPEWAYS HOLDINGS, INC.

**(Exact name of registrant as specified in its charter)**

| | |
|---|---|
| **Delaware** | **87-2876494** |
| **(State or other jurisdiction of incorporation)** | **(I.R.S. Employer Identification No.)** |

**12163 Globe St**

**Livonia, MI 48150**

**(Address of principal executive offices) (Zip Code)**

**(734) 422-6060**

**(Registrant’s telephone number, including area code)**

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

| Title of each class: | Trading Symbol(s) | Name of each exchange on which registered: |
|---|---|---|
| **Common Stock, par value $0.0001 per share** | **SHPW** | **New York Stock Exchange** |
| **Warrants, each whole warrant exercisable for one share of Common Stock for $11.50 per share** | **SHPW WS** | **New York Stock Exchange** |

Securities registered pursuant to Section 12(g) of the Securities Exchange Act of 1934: 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 (§232.0405 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 | ☐ | Accelerated filer | ☐ |
| Non-accelerated filer | ☒ | Smaller reporting company | ☒ |
| | | Emerging growth company | ☒ |

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 its 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. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b2 of the Exchange Act). Yes ☐ No☒

The aggregate market value of voting stock held by non-affiliates of the registrant, as of June 30, 2022, the last business day of the registrant's most recently completed second fiscal quarter, was approximately $48.0 million (based on the last reported sale price of the registrant's common stock of $1.17 per share on June 30, 2022 on the New York Stock Exchange). The registrant has no non-voting stock outstanding.

As of March 24, 2023 the registrant had49,609,167 shares of common stock outstanding.

**Documents Incorporated by Reference**

Portions of the registrant's definitive proxy statement related to the registrant's 2023 Annual Meeting of Shareholders to be filed hereafter are incorporated by reference into Part III of this Annual Report on Form 10-K. The 2023 Proxy Statement will be filed with the U.S. Securities and Exchange Commission within 120 days after the end of the fiscal year to which this report relates.

## SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K (the "Report"), including, without limitation, the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations," includes forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act") and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). All statements, other than statements of present or historical fact included in or incorporated by reference in this Report, regarding the future financial performance of Shapeways Holdings, Inc. (the "Company", "Shapeways," "we," "us" or "our"), as well as the Company's strategy, future operations, future operating results, financial position, estimated revenues, and losses, projected costs, prospects, plans and objectives of management are forward-looking statements. In some cases, you can identify forward-looking statements by terminology such as "plan," "believe," "expect," "anticipate," "intend," "outlook," "estimate," "forecast," "project," "continue," "could," "may," "might," "possible," "potential," "predict," "should," "would," "will," "seek," "target," and other similar words and expressions, but the absence of these words does not mean that a statement is not forward-looking.

The forward-looking statements are based on information available as of the date of this Report and on the current expectations, forecasts and assumptions of the management of the Company, involve a number of judgments, risks and uncertainties and are inherently subject to changes in circumstances and their potential effects and speak only as of the date of such statements. There can be no assurance that future developments will be those that have been anticipated. These forward-looking statements involve a number of risks, uncertainties (some of which are beyond the Company's control) or other assumptions that may cause actual results or performance to be materially different from those expressed, contemplated or implied by these forward-looking statements. These risks and uncertainties include, but are not limited to, those factors described under Part I, Item 1A: "Risk Factors." Should one or more of these risks or uncertainties materialize, or should any of our assumptions prove incorrect, actual results may vary in material respects from those projected in these forward-looking statements. The Company undertakes no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as may be required under applicable securities laws. These risks and others described under Part I, Item 1A: "Risk Factors" may not be exhaustive.

By their nature, forward-looking statements involve risks and uncertainties because they relate to events and depend on circumstances that may or may not occur in the future. Forward-looking statements are not guarantees of future performance and the Company's actual results of operations, financial condition and liquidity, and developments in the industry in the Company operates may differ materially from those made in or suggested by the forward-looking statements contained in this Report. In addition, even if the Company's results or operations, financial condition and liquidity, and developments in the industry in which it operates are consistent with the forward-looking statements contained in this Report, those results or developments may not be indicative of results or developments in subsequent periods.

# PART I

## Item 1. Business

### Company Overview

Shapeways Holdings, Inc. ("Shapeways") is a leading digital manufacturer combining high quality, flexible on-demand manufacturing with purpose-built proprietary software to offer customers an end-to-end digital manufacturing platform on which they can rapidly transform digital designs into physical products. Our manufacturing platform offers customers access to high quality manufacturing from start to finish through automation, innovation and digitization. Our proprietary software, wide selection of materials and technologies, and global supply chain lower manufacturing barriers and accelerate delivery of manufactured parts from prototypes to finished end parts. We combine deep digital manufacturing know-how and software expertise to deliver high quality, flexible on-demand digital manufacturing to a range of customers, from project-focused engineers to large enterprises.

We have manufacturing facilities in Livonia and Charlotte, Michigan within the United States and in Eindhoven, the Netherlands. In addition, as of December 31, 2022, we had 38 strategic supply chain partners who provide incremental capacity and production technologies to help us scale with customer demand and support us in efficiently launching new materials and manufacturing technologies. Approximately 36% of our revenue in 2022 was earned through those strategic outsourced supply chain partners.

We support our customers through the design, pre-production, manufacturing and delivery process across a range of industries, materials, part volumes and delivery options. Our software is deeply integrated with our customers' workflows and often is mission critical to their businesses. We make industrial-grade additive manufacturing accessible by fully digitizing the end-to-end manufacturing process, and by providing a broad range of solutions utilizing 12 additive manufacturing technologies and more than 120 materials and finishes, with the ability to easily scale new innovation. Shapeways has delivered over 24 million parts to over one million customers in over 180 countries as of December 31, 2022. Our platform is agnostic as to manufacturing hardware, materials and design software providers.

We use our proprietary software to automate production that passes through our manufacturing platform. Our software supports ordering, part analysis, manufacturing planning, pre-production and manufacturing. This software enables us to offer high quality, low-volume, complex part production. In an environment increasingly focused on mass customization and speed of part delivery, we believe that our core competency in low-volume, high-mix production at scale appeals to customers.

We are making commercially available our software platform, and we launched the first phase of our software offering to third-party manufacturers, under the brand OTTO, in the fourth quarter of 2021. This phase of the rollout involves activities such as creating awareness of the offering and working to ensure the software can interoperate with systems used by current and potential customers. We plan to roll out further phases of this software over the next several years. Additionally, as a complement to our existing software strategy, in April 2022 we acquired MFG.com ("MFG") and MakerOS, Inc. ("MakerOS"), which we believe will both help further our software strategy and help accelerate OTTO's phased rollout. We intend to further commercialize our software as part of our goal to accelerate digital transformation across the manufacturing ecosystem. We believe our software can transform manufacturers globally by easing the digital transformation of traditional manufacturers, particularly small- to medium-sized manufacturers that are not able to invest the capital and time necessary to digitize their processes.

### Our Strategy

The key elements of our strategy for growth are:

- ***Expand Materials Offering.*** Our materials portfolio has historically been focused on polymers. We will continue to expand our polymers offerings while adding capabilities in industrial metals, composites and ceramics. We believe that by expanding our materials capabilities and offering a comprehensive and innovative materials portfolio, we will be able to unlock additional opportunities in key markets such as industrial, medical, automotive and aerospace.

- ***Build a Diverse, Global Customer Base.*** Our customers today include businesses of all sizes, ranging from small and medium enterprises to Fortune 500 organizations, and span many industries, including aerospace, robotics, consumer products, architecture, gaming, jewelry and medical devices. We have historically served customers based largely in North America and Europe, but we believe there is considerable opportunity to expand into other markets, including Asia, in particular, given the significant levels of manufacturing output in countries such as China, Japan, South Korea, Taiwan, Vietnam and India. We aim to leverage our supply chain partners globally to help us serve customers in areas in which we currently do not have a geographic footprint. As we continue to add customers, we may consider adding our own manufacturing capabilities to serve customers outside of North America and Europe.
- ***Expand Within and Beyond Additive Manufacturing.*** We will continue to expand our reach within additive manufacturing through new hardware and expanded materials capabilities. We also plan to expand into other digital manufacturing technologies such as computer numerical control, injection molding and sheet metal, all of which are generally suited to complex, low-volume part production. As our customers scale in volume, they often graduate into these traditional methods; therefore, we believe adding these capabilities will allow us to capture a larger portion of customer spend and grow with our customers' needs. We plan to leverage our strategic outsourced supply chain partners to support these manufacturing capabilities while we focus our internal manufacturing capabilities on additive manufacturing.
- ***Further Commercialize Software Offering.*** We believe there are opportunities to expand revenue from our software offering. We launched the first phase of our software offering to third-party manufacturers under the brand OTTO in the fourth quarter of 2021 and plan to roll out further phases of this software over the next several years. Additionally, as a complement to our software strategy, in April 2022 we acquired MFG and MakerOS, which we believe will also help accelerate OTTO's phased rollout and drive additional revenues.
- ***Target Strategic M&A and Partnership Opportunities.*** The manufacturing industry is highly fragmented, with many traditional and additive manufacturers focused on specific geographies, end-markets, hardware technologies and materials. However, many of these manufacturers have not implemented software to fully digitize their manufacturing process and complete their digital transformation. We plan to grow inorganically by continuing to acquire companies that we believe can help us accelerate our investment in new hardware, materials, and finishing capabilities, as well as new geographies and vertical markets. We believe our expertise in both software and manufacturing makes us well positioned to evaluate such opportunities as they become available.

**Our Competitive Strengths**

- ***High quality, flexible on-demand manufacturing with proprietary purpose-built software.*** Our manufacturing platform adjusts to customers' needs to optimize for speed, cost and quality. Our platform is designed to be highly configurable to meet the needs of our customers and suited for industrial-grade, high quality, low-volume, complex one-part production at scale. We offer high quality, flexible on-demand manufacturing services to deliver finished end parts to our customers in days instead of the weeks or months that are generally required by traditional manufacturers.
- ***Platform scalability and quick adaptability to market shifts.*** We do not depend on the success of any one hardware provider, manufacturing technology, or materials vendor. Our software is designed to be highly configurable and integrate easily with new hardware technologies and materials allowing us to adapt and shift in response to market changes. We expect to continue adding new hardware providers, manufacturing technologies and materials. We believe that we will benefit from innovation in hardware and materials across the additive manufacturing market, which will allow us to offer even more materials to our customers.
- ***Enabling platform adoption across customer types and industries.*** Our customer base is diversified across sizes, industries and geographies. Unlike hardware providers, we have the opportunity to capture business from small to medium sized manufacturers that are unlikely to invest the capital required to deploy and support their own digital manufacturing capabilities.
- ***Experienced management team with strong investor support.*** Our leadership team has decades of category and operational experience, including our engineering, sales and manufacturing teams. We have a proven history in successfully operating and scaling businesses with experience in both technology and manufacturing. Investors with deep domain expertise have supported our business, providing resources and knowledge in the development of our end-to-end digital manufacturing platform and underlying software.

## Our Platform

### *Shapeways Digital Manufacturing Platform*

We offer a broad set of digital manufacturing tools and services to help customers innovate faster, lower costs and scale more efficiently. Our end-to-end digital manufacturing platform is differentiated through three key areas, design, production, and scale and is powered by our proprietary, purpose-built software:

- ***Design***. We provide our customers with advanced design technology and services to help correct and optimize their files to enable successful manufacturability. Through our software and in-house experts, we assist with file optimization, file correction, material and technology consultation, and prototyping. We also review digital files so they are optimized for materials, strength, structure, and cost, working closely with our customers to ensure quality and end-user satisfaction. Finally, we offer custom rapid-prototyping services that can accelerate product development by allowing our customers to iterate designs both virtually and physically prior to production.

- ***Production***. Through our digital manufacturing platform, our customers have access to numerous innovative additive manufacturing hardware technologies and materials. We built our platform with process visibility and quality in mind, and we offer our customers the ability to track production via real-time dashboards. Our manufacturing technology is able to deliver thousands of unique parts per day and can track by machine, material, operator, and process. Our production capabilities include 12 hardware technologies and more than 120 materials and finishes. We offer advanced finishing, including painting, polish, chemical treatment, color and metal plating, as well as performance and fit testing, quality checks and assembly for finished end-parts. We also offer custom-branded packing and fulfillment. Shapeways provides high quality, low-volume production with a 30-day average of approximately 98% on-time deliveries globally with a less than 1% customer complaint rate for the year ended December 31, 2022. By shipping products directly to our customers' end customers, we can help reduce the potential for issues related to order fulfillment. The table below shows 12 common materials offered by Shapeways and the 12 types of technologies that are used to manufacture end parts using the material, in each case as of December 31, 2022.

| Name | Material | Technology |
|---|---|---|
| Accura 60, Accura Xtreme, Accura Xtreme 200, Grey Primed SLA | Accura 60, Accura Xtreme, Accura Xtreme 200, LT9000 | SLA |
| MJF Plastic PA12, PA12GB, Polypropylene | Nylon 12, Nylon 12 Glass Bead Filled, Polypropylene | MJF |
| PA11, TPU, Versatile Plastic, Nylon 6 Mineral Filled , Arnite® T AM1210, TPE | Nylon 11, Thermoplastic Polyurethane, Nylon 12, Nylon 6 Mineral Filled, PBT, TPC | SLS |
| Multi-Color Polyjet | Vero | Polyjet |
| Stainless Steel 316L, Stainless Steel 17-4PH, 4140 Steel, Copper | Stainless Steel 316L, Stainless Steel 17-4PH, 4140 Steel, Copper | BMD |
| High Definition Full Color, Fine Detail Plastic | Mimaki MH-100, Visijet M3 Crystal | Material Jetting |
| BHDA, Ultracur3D® RG 35, 5015 Elastomeric Shore A 70, 3843 Tough HDT80, 3172 Tough High Impact | R5 Gray, Ultracur3D® RG 35, 5015 Elastomeric Shore A 70, 3843 Tough HDT80, 3172 Tough High Impact | DLP |
| EPU 40, RPU 70, UMA 90 | Elastomeric Polyurethane, Rigid Polyurethane, Urethane Methacrylate | DLS |
| Aluminum, MS1 | Aluminum, Maraging Steel (MS1) | L-PBF |
| Steel, Stainless Steel 316L | 420 Steel / Bronze (60:40),Stainless Steel 316L, Stainless Steel 17-4PH, Gypsum | Binder Jetting |
| Bronze, Brass, Copper, Gold Plated Brass, Gold, Platinum, Rhodium Plated Brass, Silver | Wax Casting | Casting |
| Titanium | Ti-6AI-4V (Titanium) | E-PBF |

- ***Scale***. Our Application Programming Interface (“API”) integrations allow us to easily scale and grow with our customers’ businesses. With our API integrations, customers can seamlessly integrate custom websites or web applications into our platform, enabling them to efficiently scale and leverage our fulfillment capability. We also have integrations with leading third party e-commerce providers, allowing our customers who sell consumer-facing goods to connect their stores directly to our platform. Further, our customers have access to our service and support teams, who provide them with deep domain expertise in digital manufacturing technology, materials and production processes.

**Shapeways Proprietary, Purpose-Built Software**

Our ability to deliver high quality, flexible on-demand manufacturing is powered by our proprietary, purpose-built software. That software enables us to fully digitize the end-to-end manufacturing workflow, including:

**Ordering.** Our software enables customized order intake allowing our customers to offer secure upload and immediate pricing through automated configurations of model, material, finish, and fulfillment requirements. Our software provides order management to simplify manufacturing status monitoring, sales tracking, and repeat ordering. Files that are uploaded can be saved to a digital inventory, allowing the customer to facilitate future orders.

**Analysis.** Currently approximately 85% of files that are uploaded to our platform must be revised for successful manufacturability. Our software provides automated printability analysis, including file correction and optimization, and can automatically correct common issues with 3D models. If the file is determined to be unprintable based on model geometry, past print successes, and material guidelines, our software enables automated workflows to communicate feedback and printability issues with the customer and offer them paths for resolution.

**Planning.** Our software enables production planning across a supply chain network, including both our internal manufacturing facilities and external supply chain outsource partners. Our software automates the assignment and allocation of orders through the supply chain using smart demand allocation, based on cost, manufacturing capacity, part specification, geography, and fulfillment speed.

**Pre-Production.** Our software includes manufacturing preparation technology, 2D and 3D tray planning, and machine integration. This allows for optimized asset utilization, materials usage, and machine capacity utilization.

**Manufacturing.** Our software includes technology that spans production, asset monitoring, material monitoring, traceability, post-production processes, and certification. This includes robust tools to monitor all steps of the manufacturing process and enable continuous iterations and improvements to adjust to emerging technologies and capabilities. Our platform connects directly with additive manufacturing hardware, providing an integrated platform for monitoring production, maintenance, and printer status across both internal manufacturing and outsource supply chain capabilities. We provide full historical logging capabilities, capturing key touch points from pre-print to production to reduce machine downtime and enable gross margin improvements.

Our software also supports post-production processes, inspection, and assembly. This enables us to incorporate custom workflows, including improved quality assurance processes and assembly instructions. Our quality assurance feedback process creates a feedback loop between customers and manufacturers to achieve optimal product standards.

Our software enables global distribution and delivery of finished products direct to the end customer. We ship efficiently via a distribution center network and shipping service integrations. Our customer service team has deep domain expertise in additive manufacturing technology, materials, and production processing and offers end-to-end support to both our customers and their end customers.

***Commercializing Shapeways' Software Offering, OTTO***

We believe the full capabilities of our proprietary, purpose-built software will enable software customers to leverage our end-to-end manufacturing software and manufacturing capability to scale their business and shift to digital manufacturing. Through *OTTO*, software customers can leverage our technology for capabilities such as file-upload, instant pricing, custom checkout, file optimization and manufacturing fulfillment. Software customers can also leverage our software platform to launch new hardware or materials offerings. This solution provides our software customers with the ability to maintain their branding while also providing them access to our end-to-end manufacturing software for their own manufacturing needs. In April 2022 we acquired MFG and MakerOS which we believe will help further our software strategy and is expected to help accelerate OTTO's phased rollout.

OTTO enables improved customer accessibility, increased productivity and expanded manufacturing capabilities. We believe that our software will be useful to other manufacturers in some of the following ways:

- ***Improved Accessibility***. Our software can shift manufacturers online enabling them to improve customer accessibility. Moving offline processes online enables more streamlined quoting and ordering process, clear communication with the customer through the process, and improved customer visibility to the end-to-end manufacturing process.

- ***Increased Productivity***. Our software digitizes the process from ordering through delivery, creating significant efficiencies in the end-to-end manufacturing process. This removes manual steps in the process, minimizes unnecessary labor costs, and increases manufacturing throughput.

- ***Expanded Capabilities***. Our software will enable customers to expand their manufacturing hardware and material capabilities by leveraging our internal manufacturing capabilities and strategic outsourced supply chain partners. This will enable software customers to expand their manufacturing capabilities and capture more customer share of wallet, without having to invest in hardware.

**Customers**

We have delivered over 24 million parts to over one million customers in over 180 countries from inception through 2022. A key component of our growth has been our relationships with our customers, which has led to a high level of repeat revenue. In 2022, one customer accounted for approximately 20% of our revenue. Our customers range from small- and medium-sized enterprises to Fortune 500 companies and are diversified across a range of industries. Shapeways supports customers’ manufacturing needs from design, prototyping, optimization, and finished part production. We expect to expand our customer base to include additional software customers as we continue to roll out further phases of OTTO over the next several years.

**Research and Development**

Our research and development efforts are focused primarily on software development and the evaluation of new manufacturing technologies and materials to add to the Shapeways digital manufacturing platform, both internally and through our strategic outsourced supply chain partners. The digital manufacturing landscape is evolving quickly, with new technologies and materials being brought to market at an increasingly rapid pace. Our research and development, operations and supply chain teams have deep relationships with leading hardware and materials providers, allowing us to stay current on new technologies coming to market. Our research and development team regularly evaluates opportunities in new technologies and materials across a range of factors including customer demand, technology maturity, and production workflow. Additionally, our research and development team work closely with hardware original equipment manufacturers (“OEMs”) and materials providers to ensure production quality and efficiency for our customers.

**Sales and Marketing**

Historically, Shapeways has been a self-service digital manufacturing platform growing through our customers and through organic customer acquisition. We are focused on direct sales and marketing efforts to both expand our customer base and retain our existing customer base. We have strong brand recognition due to our long-standing relationships with hardware OEMs and materials providers, who have also served as channels for customer acquisition. Our marketing strategy has historically focused on inbound marketing, and we plan to expand our outbound efforts, primarily focused on larger potential customers and expanding our reach in key verticals.

Our marketing strategies are focused on supporting sales growth by driving awareness of digital manufacturing and of our platform. We develop comprehensive sales and marketing content, tools, and campaigns, often in parallel with our partner network. Our internal marketing team develops content specifically aimed at both corporate executives and engineers in multiple formats such as case studies, newsletters, and webinars in order to facilitate sales and customer engagement. We regularly release communications through trade press and attend industry events and conferences to augment our vertical market strategy and build strategic relationships.

**Manufacturing and Suppliers**

Our manufacturing capabilities include ISO 9001: 2015, IATF 16949, and ITAR compliant facilities in Livonia and Charlotte, Michigan and in Eindhoven, the Netherlands, as well as a network of outsource supply chain partners, all of which are managed through our proprietary software platform. Our strategic outsourced supply chain partners focus on overflow capacity to help us meet peak demand, as well as support us in efficiently launching new materials and technologies on our platform. Our internal manufacturing and supply chain teams collaborate closely with our strategic outsourced supply chain partners to ensure production quality.

We source and purchase manufacturing equipment from the leading hardware providers in the additive manufacturing ecosystem, such as 3D Systems, Carbon, EnvisionTec, EOS, ExOne, Formlabs, HP, Origin, Prodways and Desktop Metal. We source materials from these hardware providers as well as from leading chemicals companies such as BASF, DSM/Covestro, and Henkel. As the hardware and materials landscape continues to evolve, we expect to partner with additional hardware and materials providers, either by bringing their capabilities in house or by outsourcing to our strategic outsourced supply chain partners.

**Our Competition**

The industry in which we operate is fragmented and competitive. We compete for customers with a range of digital manufacturing platforms, including Materialise NV, Proto Labs, Inc., service bureaus, digital manufacturing brokers, and small local manufacturers. We believe we are differentiated from our competitors as we provide solutions that combine proprietary software and digital manufacturing capabilities.

In particular, we believe we compare favorably to other industry participants on the basis of the following competitive factors:

- Wide range of plastic materials offerings;
- Growing portfolio of metals offerings with ability to supply new materials as they become available;
- Part quality and consistency across over 23 million parts;
- Serving a broad range of customers and industries;
- End-to-end digital manufacturing solution from design and repair to production and distribution;
- Proprietary software platform to streamline customer operations;
- Strategic ecosystem of partner integrations; and
- Opportunity to expand to traditional manufacturing capabilities and capture more customers’ share of wallet.

**Intellectual Property**

Our ability to drive innovation in the digital manufacturing market depends in part upon our ability to protect our core technology and software know-how. We attempt to protect our intellectual property rights through a combination of patent, trademark, domain names, copyright and trade secret laws, as well as through contractual provisions and restrictions on access to our proprietary technology which includes both nondisclosure and invention assignment agreements with our consultants and employees and non-disclosure agreements with our vendors and business partners. While unpatented research, development, know-how and engineering skills are important to our business, we pursue patent protection when we believe it is possible and consistent with our overall strategy for safeguarding intellectual property. Our existing patents are expected to expire between 2031 through 2038.

As of December 31, 2022, we owned 24 issued patents, including 9 United States patents and 15 foreign patents. Shapeways’ patents and patent applications are directed to proprietary technology used in mass customization design tools, part costing, evaluating manufacturability, manufacturing planning, and the manufacturing process.

We have registered "Shapeways" as a trademark in Australia, Canada, China, the European Union, India, Israel, Japan, New Zealand, Singapore, South Korea, Taiwan, the United Kingdom, and the United States.

We have registered "OTTO" as a trademark in the United Kingdom and Israel, and a Notice of Allowance has been issued in connection with the United States registration. "OTTO" trademark registrations are pending in Australia, Canada, China, the European Union, India, Japan, South Korea, New Zealand, Singapore, and Taiwan.

**Seasonality**

Our revenues and operating results may fluctuate from quarter-to-quarter and year-to-year due to our sales cycle and seasonal reductions in business activity among our customers, particularly during the summer months in Europe.

**Mission, Values and Human Capital**

Our mission is to reshape manufacturing by offering advanced manufacturing solutions and a full suite of software tools and services to enable manufacturing digitization. At Shapeways, we hold ourselves accountable for upholding our corporate responsibility and sustainability practices. Our values govern our internal and external relationships. They set the foundation for what we stand for and the behaviors we promote. And in an ever-changing world, our values remain the moral compass guiding our decision making.

- ONE TEAM: Together We Go Far
- INNOVATE: Fail Fast, Learn Faster
- THINK CRITICALLY: Be Inquisitive
- DRIVE RESULTS: Move the Needle
- BE PASSIONATE: Believe in the Mission

***Workforce Demographics***

As of December 31, 2022, we had 207 total employees, of which 191 were full time employees and 16 were part time employees. We also regularly use independent contractors and other temporary employees to supplement our regular staff. We believe that our future success will depend partly on our continued ability to attract, hire and retain qualified, diverse and inclusive personnel.

We are an equal opportunity employer, and we believe that having a diverse workforce drives innovation and resilience. Gender and ethnic diversity, inclusion, and performance go hand in hand. Our workforce is comprised of engineers, technicians, salespeople, and business professionals, of which 30% were racially diverse as of December 31, 2022.

The success of our business is fundamentally connected to our employees and their well-being. We are committed to the health, safety, and wellness of our employees around the globe. We provide our employees with a wide range of benefits, including benefits directed to their health, safety, and long-term financial security. In response to the COVID-19 pandemic, we implemented significant changes that we determined were in the best interest of our employees, as well as the communities in which we operate, and which were in compliance with government regulations. This includes allowing our employees to work remotely as appropriate, while implementing significant safety measures designed to protect the health of anyone entering our facilities.

***Total Rewards***

A competitive total rewards program is integral to our success, which depends considerably on our ability to attract and retain highly engaged employees in a dynamic and changing business environment.

We review base compensation for non-senior level management employees semiannually, and we review equity, benefits, and perquisites annually. To do so, we analyze many factors, including individual and corporate performance, managers' feedback, and market data from third-party compensation surveys.

***Diversity, Equity, and Inclusion ("DEI")***

We believe it is important to foster a culture of belonging and acceptance, and to create a workplace environment free of bias. To do this we are dedicated to driving DEI efforts from committees composed of employees and management of all levels, which are focused on creating business case initiatives championing our diversity strategy. We also hold annual employee, board, and contractor trainings on DEI matters.

***Engagement***

Having a highly engaged workforce is necessary for retaining talent and ensuring the continued success of our organization. To do so, we continually gather employee feedback both internally through employee lifecycle surveys (onboarding, satisfaction, pulse, and exit) and externally (Glassdoor). We analyze the data throughout the year to identify our strengths and weaknesses, patterns, and issues. Our goal is to focus on continuous improvement, whether by growing our areas of strength or improving where we are weakest.

***Learning and Development***

We invest in our employees through on-the-job training. We provide all employees with a membership to an online learning platform on their first day, where they have access to thousands of business, creative, and technology courses free of charge.

Semi-annually we request employees provide feedback on their career goals and aspirations. These surveys focus on employees' current skills and knowledge, and identify skills gaps and areas of interest for further development. Our human resources team analyzes the responses and collects managers' input to create individual development plans for every employee.

***Product Responsibility***

We strive to foster a community and marketplace where our customers can convert their ideas into reality. However, that range of expression has its limits. For example, there have been news reports that 3D printers were used to print guns or other weapons. While we implement a weapons and content policy, we have little, if any, control over what objects our customers print using our offerings, and it may be difficult, if not impossible, for us to monitor and prevent customers from printing weapons with our services. While we are not aware of our platform being used to print guns or other weapons, there can be no assurance that we will not be held liable if someone were injured or killed by a weapon or other dangerous object containing a component part or parts manufactured for a customer using one of our offerings.

Employees throughout the sales and production process are trained to identify and reject problematic models. Our manufacturing partners are also required to comply with this policy and inform Shapeways of any non-complying products.

***Workplace Safety***

We are committed to creating a safe, secure, and healthy work environment for our employees. Our focus is on reducing significant safety risks and driving a strong safety culture through communication, awareness, and visible leadership. To assist in achieving this commitment, we provide safety trainings and necessary personal protective equipment ("PPE") at all facilities. We monitor injury and illness health and safety metrics across our organization to continually evaluate our safety programs to meet the needs of our teams.

**Environmental**

We strive to maximize recycling in our facilities. We recycle metal, plastic, and paper. The minimal hazardous waste streams are handled by reputable third party providers. Beyond this, we have introduced several materials offerings that are plant-based and have high recycling rates within our manufacturing process. One of the benefits of 3D printing is that additive manufacturing uses only the material needed to produce the final part, and as a result there is substantially less production waste than with traditional manufacturing.

**Facilities**

We lease a 17,250 square foot manufacturing facility in Livonia, Michigan which expires in March 2026 and a 100,000 square foot manufacturing facility in Charlotte, Michigan which expires April 2026. We lease a 18,837 square foot facility in Eindhoven, Netherlands, and the lease of this facility expires in September 2024. We believe that our facilities are adequate for our current needs and, should the company need additional space, that we will be able to obtain additional space on commercially reasonable terms.

**Government Regulations**

We are subject to various laws, regulations and permitting requirements of federal, state, and local authorities, including related to environmental, health and safety, anti-corruption, and export controls. We believe that we are in material compliance with all such laws, regulations, and permitting requirements.

Prior to utilizing Shapeways' services, all Shapeways customers must agree to Shapeways Terms and Conditions wherein, among other things, customers warrant that any files they upload are their original creation and not copied from any third party or entity. The Shapeways Terms and Conditions also contain additional legal safeguards designed to protect Shapeways from intellectual property infringement by its customers, such as their acknowledgement of their compliance with all applicable laws, rules and regulations and their indemnification of Shapeways for any claims resulting from their infringement of any third party intellectual property.

In addition to the Shapeways Terms and Conditions, we implement other safeguards and policies to eliminate or reduce exposure to third party intellectual property infringement. Specifically, we utilize a keyword filter that screens all product listings for specific terms prior to the listings' publication on the Shapeways marketplace. The keyword filter screens terms (i) related to products where Shapeways has observed substantial prior unauthorized intellectual property use, and (ii) added upon request by certain intellectual property rights holders who have sent Shapeways notices under the Digital Millennium Copyright Act ("DMCA"). The keyword filter is periodically updated. Once a listing has been flagged by Shapeways' keyword filter, the listing enters into a queue for manual review by Shapeways' content review team and/or the legal department. The content review team and/or the legal department reviews the listing for unauthorized use of intellectual property.

The primary intellectual property-related statute that applies to our business is the DMCA, which, among other things, provides a copyright safe harbor for online service providers and a formal procedure for submitting copyright takedown notices. The takedown procedure consists of six requirements which establish the proper standing of the individual or organization providing notice, and specify the infringing and infringed material. Once a proper DMCA takedown notice is received, we promptly remove the content and inform the customer of the takedown notice that we received. The customer then has an opportunity to file a counter notice to reinstate the content. Although there is no DMCA equivalent for trademarks, we apply a similar takedown procedure for those instances.

***Environmental Matters***

We are subject to domestic and foreign environmental laws and regulations governing our operations, including, but not limited to, emissions into the air and water and the use, handling, disposal, and remediation of hazardous substances. A certain risk of environmental liability is inherent in our production activities. These laws and regulations govern, among other things, the generation, use, storage, registration, handling, and disposal of chemicals and waste materials, the presence of specified substances in electrical products, the emission and discharge of hazardous materials into the ground, air, or water, the cleanup of contaminated sites, including any contamination that results from spills due to our failure to properly dispose of chemicals and other waste materials, and the health and safety of our employees. We are required to obtain environmental permits from governmental authorities for certain operations.

The export of our products internationally from our production facilities subjects us to environmental laws and regulations concerning the import and export of chemicals and hazardous substances such as the Toxic Substances Control Act and Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals. These laws and regulations require the evaluation and registration of certain chemicals that we ship along with, or that form a part of, our systems and other products.

***Export and Trade Matters***

We are subject to anti-corruption laws and regulations imposed by governments around the world with jurisdiction over our operations, including the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act 2010, as well as the laws of the countries where we do business. We are also subject to various trade restrictions, including trade and economic sanctions and export controls, imposed by governments around the world with jurisdiction over our operations. For example, in accordance with trade sanctions administered by the Office of Foreign Assets Control and the U.S. Department of Commerce, we are prohibited from engaging in transactions involving certain persons and certain designated countries or territories. In addition, our products are subject to export regulations that can involve significant compliance time and may add additional overhead cost to our products. In recent years the United States government has had a renewed focus on export matters related to additive manufacturing. Some of our products are already more tightly controlled for export, and other of our products may in the future become more tightly controlled for export. For example, the Export Control Reform Act of 2018 and regulatory guidance thereunder have imposed additional controls and may result in the imposition of further additional controls, on the export of certain "emerging and foundational technologies." Our current and future products may be subject to these heightened regulations, which could increase our compliance costs.

**Available Information**

Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to reports filed pursuant to Sections 13(a) and 15(d) of the Securities Exchange Act of 1934, as amended, are available free of charge on the Investor Relations section of our website at investors.shapeways.com as soon as reasonably practicable after we file such material with the Securities and Exchange Commission, or the SEC. The information on, or that can be accessed through, our website is not part of this Report. We have included our website address as an inactive textual reference only. The SEC also maintains a website that contains reports and other information regarding issuers, such as Shapeways, that file materials electronically with the SEC. The SEC's website is located at www.sec.gov.

## Item 1A. Risk Factors

*An investment in our securities involves a high degree of risk. You should consider carefully all of the risks described below, together with the other information contained in this Report, including our financial statements and related notes, before making a decision to invest in our securities. If any of the following events occur, our business, financial condition and operating results may be materially adversely affected. In that event, the trading price of our securities could decline, and you could lose all or part of your investment.*

**Risk Factor Summary**

- We have a history of losses and may not achieve or maintain profitability in the future.
- We face significant competition and expect to face increasing competition in many aspects of our business, which could cause our operating results to suffer.
- The digital manufacturing industry is a relatively new and emerging market and it is uncertain whether it will gain widespread acceptance.
- We derive a significant portion of our revenue from business conducted outside the United States and are subject to the risks of doing business outside the United States.
- If we fail to grow our business as anticipated, our revenues, gross margin, and operating margin will be adversely affected.
- If our new and existing solutions and software do not achieve sufficient market acceptance, our financial results and competitive position will decline.
- Our attempts to continue to expand our business into existing and new markets and geographies may not be successful.
- An active, liquid trading market for our common stock may not be sustained, which may limit your ability to sell your shares.
- Our issuance of additional shares of common stock or convertible securities may dilute your ownership of us and could adversely affect our stock price.
- Future sales, or the perception of future sales, of our common stock by us or our existing stockholders in the public market could cause the market price for our common stock to decline.

- Our operating results and financial condition may fluctuate on a quarterly and annual basis.
- Our stock price may be volatile or may decline regardless of our operating performance. You may lose some or all of your investment.
- If securities or industry analysts publish inaccurate or unfavorable research or reports about our business, our stock price and trading volume could decline.
- Failure to attract, integrate and retain additional personnel in the future, could harm our business and negatively affect our ability to successfully grow our business.
- Interruptions to or other problems with our website user interface, information technology systems, manufacturing processes, or other operations could damage our reputation and brand and substantially harm our business and results of operations.
- As part of our growth strategy, we may continue to acquire or make investments in other businesses, patents, technologies, products, or services. We may not realize the anticipated benefits of such investments and integration of these investments may disrupt our business and divert management attention.
- The loss of one or more key members of our management team or personnel could harm our business.
- We may not timely and effectively scale and adapt our platform, processes, and infrastructure across materials, technologies, markets and software to expand our business.
- Our actual results may be significantly different from our projections, estimates, targets or forecasts.

**Risks Related to Our Business**

***We have a history of losses and may not achieve or maintain profitability in the future.***

We experienced net loss of $20.2 million and net income of $1.8 million for the years ended December 31, 2022 and 2021, respectively. As of December 31, 2022, we had an accumulated deficit of $133.0 million. We believe we may continue to incur operating losses and negative cash flow in the near-term as we continue to invest significantly in our business, in particular in new printing hardware and materials, sales and marketing programs and software services. These investments may not result in increased revenue or growth in our business.

We may incur significant losses in the future for a number of reasons, including due to the other risks described in this Part I, Item 1A: “Risk Factors,” and we may encounter unforeseen expenses, difficulties, complications and delays and other unknown events. As a result, our losses may be larger than anticipated, we may incur significant losses for the foreseeable future, and we may not achieve or maintain profitability when expected, or at all. Revenue growth and growth in our customer base may not be sustainable, and we may not achieve sufficient revenue to achieve or maintain profitability. If our future growth and operating performance fail to meet investor or analyst expectations, or if we have future negative cash flow or losses resulting from our investment in acquiring customers or expanding our operations, this could have a material adverse effect on our business, financial condition and results of operations.

***We face significant competition and expect to face increasing competition in many aspects of our business, which could cause our operating results to suffer.***

The digital manufacturing industry in which we operate is fragmented and competitive. We compete for customers with a wide variety of manufacturers, including those that use digital manufacturing and/or 3D printing equipment. Exclusivity arrangements in the digital manufacturing industry are uncommon; we have few exclusivity arrangements with our customers. Some of our existing and potential competitors are researching, designing, developing, and marketing other types of offerings that may render our existing or future services obsolete, uneconomical or less competitive. Existing and potential competitors may also have substantially greater financial, technical, marketing and sales, manufacturing, distribution, and other resources than we do, including name recognition, as well as experience and expertise in intellectual property rights and operating within certain international markets, any of which may enable them to compete effectively against us. For example, a number of companies that have substantial resources have announced that they are beginning digital manufacturing initiatives, which will further enhance the competition we face.

We cannot assure you that we will be able to maintain our current position or continue to compete successfully against current and future sources of competition. If we do not keep pace with technological change, demand for our offerings may decline, and our operating results may suffer.

***The digital manufacturing industry is a relatively new and emerging market and it is uncertain whether it will gain widespread acceptance.***

The emergence of the digital manufacturing industry is a relatively recent development, and the industry is characterized by rapid technological change. We have encountered and will continue to encounter challenges experienced by growing companies in a market subject to rapid innovation and technological change. While we intend to invest substantial resources to remain on the forefront of technological development, continuing advances in digital manufacturing technology, changes in customer requirements and preferences, and the emergence of new standards, regulations, and certifications could adversely affect adoption of our products either generally or for particular applications. If the digital manufacturing industry does not gain widespread acceptance, our business will be adversely affected.

***If we fail to grow our business as anticipated, our revenues, gross margin, and operating margin will be adversely affected.***

Over the next several years we will attempt to grow our business substantially. To this end, we have made, and expect to continue to make, significant investments in our business, including investments in our infrastructure, technology, marketing, and sales efforts. This may include additional investments beyond our acquisitions of Linear Mold & Engineering, LLC, also referred to as Linear AMS ("Linear"), MFG and MakerOS in the second quarter of 2022, as well as dedicated facilities expansion and increased staffing, both domestic and international. If our business does not generate the level of revenue required to support our investments, our revenues and profitability will be adversely affected.

Our ability to effectively manage our growth will also require us to enhance our operational, financial, and management controls and infrastructure, human resources policies, and reporting systems. These will require significant investments in additional headcount and other operating expenditures and allocation of valuable management and employee resources. Our future financial performance and our ability to execute on our business plan will depend, in part, on our ability to effectively manage any future growth and expansion. There are no guarantees we will be able to do so in an efficient or timely manner, or at all.

***If our new and existing solutions and software do not achieve sufficient market acceptance, our financial results and competitive position will decline.***

We launched the first phase of our software offering under the brand "OTTO" in the fourth quarter of 2021. We expanded our software offering's customer base and feature set with the acquisitions of MFG and MakerOS in the second quarter of 2022, and plan to roll out further phases of our software offering in the next several years. We have not derived significant revenue from sales of our software to date, and we may never be successful in doing so. If our software offerings do not achieve widespread acceptance, if our rollouts experience significant delays, or if there is lower than anticipated demand for our software caused by a lack of customer acceptance, technological challenges, weakening economic conditions, security or privacy concerns, competing technologies and products, decreases in corporate spending, or otherwise, our business could be adversely affected.

***Our attempts to continue to expand our business into existing and new markets and geographies may not be successful.***

We seek to grow our business through, among other things, expanding our digital manufacturing capabilities into existing and new markets and expanding our offerings into new geographies, including through acquisitions. Our efforts to expand our offerings into existing and new markets, including industrial, medical, automotive, and aerospace markets, and new geographies may not succeed. These attempts to expand our business increase the complexity of our business, require significant levels of investment, and can strain our management, personnel, operations, and systems. There can be no assurance that these business expansion efforts will develop as anticipated or that we will succeed, and if we do not, we may be unable to recover our investment, which could adversely impact our business, financial condition, and results of operations.

***We may be unable to consistently manufacture our customers' designs to the necessary specifications or in quantities necessary to meet demand at an acceptable cost or at an acceptable performance level and this could adversely affect our service availability, delivery, reliability, and cost.***

As we continue to grow and introduce new materials and as our customers' designs become increasingly sophisticated, it will become more difficult to provide products in the necessary quantities to meet customer expectations. We cannot assure you that we or our third-party manufacturers will be able to continue to consistently achieve the product specifications and quality that our customers expect. Any future unforeseen manufacturing problems, such as equipment malfunctions, aging components, component obsolescence, business continuity issues, quality issues with components and materials sourced from third party suppliers, or failures to strictly follow procedures or meet specifications, may have a material adverse effect on our brand, business, financial condition, and operating results. Furthermore, we or our third-party manufacturers may not be able to increase manufacturing to meet anticipated demand or may experience downtime or fail to timely deliver manufactured products to customers. If we fail to meet contractual terms with our customers, including terms related to time of delivery and performance specifications, we may be required to replace defective products and may become liable for damages, even if manufacturing or delivery was outsourced.

Our commercial contracts generally contain product warranties and limitations on liability and we carry liability insurance. However, commercial terms and our insurance coverage may not be adequate or available to protect our company in all circumstances, and we might not be able to maintain adequate insurance coverage for our business in the future at an acceptable cost. Any liability claim against us that is not covered by adequate insurance could adversely affect our consolidated results of operations and financial condition.

***Our success depends on our ability to deliver services that meet the needs of customers and to effectively respond to changes in our industry.***

Our business may be affected by rapid technological change, changes in user and customer requirements and preferences, frequent new product and service introductions by our competitors, and the emergence of new technologies, any of which could render our existing and proposed offerings and proprietary technology obsolete. Accordingly, our ongoing research and development programs are intended to enable us to maintain technological leadership. Furthermore, in order to enable continuous deep integrations with our customers, we must continually update our platform so that it can interoperate with other software and systems used by our customers. We believe that to remain competitive we must continually enhance and improve the functionality and features of our services and technologies. However, there is a risk that we may not be able to:

- Develop or obtain leading technologies useful in our business;
- Enhance our existing software offerings;
- Develop new services and technologies that address the increasingly sophisticated and varied needs of prospective customers, particularly in the area of materials diversity;
- Respond to technological advances and emerging industry standards and practices on a cost-effective and timely basis;
- Successfully manage frequent introductions and transitions of technology and software; or
- Recruit or retain key technology employees.

If we are unable to meet changing technology and customer needs, or if we fail to successfully integrate new and upgraded software, our competitive position, revenue, results of operations, and financial condition could be adversely affected.

***Failure to attract, integrate and retain additional personnel in the future could harm our business and negatively affect our ability to successfully grow our business.***

To support the continued growth of our business, we must effectively recruit, hire, integrate, develop, motivate, and retain additional new employees. High demand exists for senior management and other key personnel (including technical, engineering, product, finance, and sales personnel) in the digital manufacturing industry, and there can be no assurance that we will be able to retain our current key personnel. We experience intense competition for qualified personnel and some of our competitors for these employees have greater resources and more experience, making it difficult for us to compete successfully for key personnel. Moreover, new employees may not become as productive as we expect since we may face challenges in adequately integrating them into our workforce and culture. If we cannot attract and retain sufficiently qualified technical employees for our research and development activities, as well as experienced sales and marketing personnel, we may be unable to develop and commercialize new offerings or new applications for existing offerings. Furthermore, possible shortages of key personnel, including engineers, in the regions surrounding our facilities could require us to pay more to hire and retain key personnel, thereby increasing our costs.

All of our U.S. employees are at-will employees, meaning that they may terminate their employment relationship with us at any time, and their knowledge of our business and industry would be extremely difficult to replace. Where permissible by law, we generally enter into non-competition agreements with our employees. These agreements prohibit our employees from competing directly with us or working for our competitors or clients while they work for us, and in some cases, for a limited period after they cease working for us. We may be unable to enforce these agreements under the laws of the jurisdictions in which our employees work, in certain circumstances we may choose not to enforce these agreements and it may be difficult for us to restrict our competitors from benefiting from the expertise that our former employees or consultants developed while working for us. In addition, the Federal Trade Commission (the "FTC") recently proposed a rule that would prevent employers from entering into non-competition agreements with employees and require employers to rescind existing non-competition agreements. If we cannot demonstrate that our legally protectable interests will be harmed, or if the FTC rule goes into effect, we may be unable to prevent our competitors from benefiting from the expertise of our former employees or consultants and our ability to remain competitive may be diminished.

***Changes in the mix of the offerings we provide may impact our gross margins and financial performance.***

Our financial performance has been and may continue to be affected by the mix of offerings we sell during a given period, and we may experience significant quarterly fluctuations in revenues, gross margins, or operating income or loss due to the impact of the mix of offerings, channels, or geographic areas in which we sell our offerings. Our offerings are sold, and will continue to be sold, at different price points. Sales of certain of our offerings have, or are expected to have, higher gross margins than others. If our offerings mix shifts into lower gross margin offerings, and we are not able to sufficiently reduce the engineering, production, and other costs associated with those offerings or substantially increase the sales of our higher gross margin offerings, our profitability could be reduced. In addition, the introduction of new products or services, including as a result of acquisitions, has and may continue to heighten quarterly fluctuations in gross profit and gross margins due to manufacturing ramp-up and start-up costs.

***We may experience significant delays in the roll out of our digital manufacturing solutions, and we may be unable to successfully commercialize manufacturing solutions on our planned timelines.***

Some of our digital manufacturing solutions have not been widely released, including our software offering. There are often delays in the testing, manufacture, and commercial release of new solutions, and any delay in the process could materially damage our brand, business, growth prospects, financial condition, and operating results. Even if we successfully complete the testing of new solutions, they may not achieve widespread commercial success for a number of reasons, including:

- misalignment between the solutions and customer needs;
- lack of innovation of the solutions;
- failure of the solutions to perform in accordance with the customer’s industry standards;
- ineffective distribution and marketing;
- delay in obtaining any required regulatory approvals;
- unexpected production costs; or
- release of competitive products.

***We may not timely and effectively scale and adapt our platform, processes, and infrastructure across materials, technologies, markets, and software, to expand our business.***

A key element to our growth strategy is the ability to scale our existing platform quickly and efficiently across different materials, technologies, and other applications. This will require us to timely and effectively scale and adapt our existing platform, technology, processes, and infrastructure to expand our business. We recently began offering software as a service ("SaaS") under the brand "OTTO", and plan to roll out further phases of this software over the next several years, but may not succeed in doing so. Similarly, our manufacturing technology may not enable us to process the large numbers of unique designs and efficiently manufacture the related parts in a timely fashion to meet the needs of customers as our business continues to grow. We may not succeed in scaling our business, and any failure in our ability to timely and effectively scale our platform, technology, processes, and infrastructure could damage our reputation and brand, result in lost revenue, and otherwise substantially harm our business and results of operations.

***We rely on our collaborations and commercial agreements with third-party additive manufacturing hardware and material providers for many of our manufacturing solutions.***

Our ability to deliver manufacturing solutions to our customers and expand our manufacturing capabilities that include new hardware technologies and materials such as industrial metals, is dependent on obtaining digital manufacturing hardware and materials from third-party manufacturers. Delays in readiness, capabilities and availability of technologies, hardware and materials may limit our ability to provide manufacturing capabilities to our customers according to our plan. We have historically focused on manufacturing for customers needing products based in polymers, launching new technologies and materials will require new skills, time, and inherent risks. The success of our business may also depend, in part, on the performance and operations of third-party digital manufacturing hardware and material providers and their suppliers, over which we do not have control. We cannot assure you that our efforts in securing collaboration and commercial relationships will be successful or that we will achieve the anticipated benefits of our collaboration.

***Our failure to meet our customers' speed and quality expectations would adversely affect our business and results of operations.***

We believe many of our customers are facing increased pressure from global competitors to be first to market with their finished products, often resulting in a need for quick turnaround of custom parts. We believe our ability to quickly quote, manufacture, and ship high-quality custom parts has been an important factor in our results to date. There are no guarantees we will be able to meet customers' increasing expectations regarding quick turnaround time and quality, especially as we increase the scope of our operations. If we fail to meet our customers' expectations in any given period, our business and results of operations will likely be adversely affected.

***Our customers are often price sensitive and if our pricing algorithm produces pricing that fails to meet our customers' price expectations or insufficiently accounts for our costs to deliver our offerings, our business and results of operations may be adversely affected.***

Demand for our services is sensitive to price. We believe our competitive pricing has been an important factor in our results to date. Therefore, changes in our pricing strategies can have a significant impact on our business and ability to generate revenue. Many factors, including our production and personnel costs and our competitors' pricing and marketing strategies, can significantly impact our pricing strategies. We use algorithms to determine how to price customer orders. We may encounter technical obstacles and it is possible that we may discover additional problems that prevent our proprietary algorithms from operating properly.

If we fail to meet our customers' price expectations in any given period, demand for our offerings could decline. If our pricing algorithms do not function reliably, we may incorrectly price offerings for our customers, which could result in loss and cancellation of orders and customer dissatisfaction or cause projects to lose money.

Any of these events could result in a material and adverse effect on our business, results of operations, and financial condition.

***Sales efforts to large customers involve risks that may not be present or that are present to a lesser extent with respect to sales to smaller organizations.***

We have invested, and plan to continue to invest, in increasing our customer focus towards middle market and enterprise opportunities. Sales to large customers involve risks that may not be present or that are present to a lesser extent with sales to smaller organizations, such as longer sales cycles, more complex customer requirements, substantial upfront sales costs, less predictability in completing some of our sales, and extended payment terms. A number of factors influence the length and variability of our sales cycle, including the need to educate potential customers about the uses and benefits of our platform, the lengthier amount of time for large customers to evaluate and test our platform prior to making a purchase decision and placing an order, the discretionary nature of purchasing and budget cycles, and the competitive nature of evaluation and purchasing approval processes. As a result, the length of our sales cycle, from identification of the opportunity to deal closure, may vary significantly from customer to customer, with sales to large enterprises typically taking longer to complete. Moreover, larger organizations may demand more customization, which would increase our upfront investment in the sales effort with no guarantee that these customers will deploy our products widely enough across their organization to justify our substantial upfront investment. A portion of these customers may purchase our services on payment terms, requiring us to assume a credit risk for non-payment in the ordinary course of business. If we fail to effectively manage these risks associated with sales to large customers, our business, financial condition, and results of operations may be affected.

***We derive a significant portion of our revenue from business conducted outside the U.S. and are subject to the risk of doing business outside the United States.***

We manufacture offerings for customers in more than 180 countries around the world, and we derive a substantial percentage of our sales from these international markets. We also operate manufacturing facilities in the United States and the Netherlands, have supply chain partners that extend internationally, and deliver to customers in over 180 countries. During the year ended December 31, 2022, we derived approximately 29% of our revenue from outside the United States. Accordingly, we face significant operational risks from doing business internationally.

Risks and uncertainties we face from our global operations include:

- difficulties in staffing and managing foreign operations;
- limited protection for the enforcement of contract and intellectual property rights in certain countries where we may sell our offerings or work with suppliers or other third parties;
- potentially longer sales and payment cycles and potentially greater difficulties in collecting accounts receivable;
- foreign currency exchange risk;
- increasing inflation and interest rates;
- costs and difficulties of customizing offerings for foreign countries;
- challenges in providing solutions across a significant distance, in different languages, and among different cultures;
- laws and business practices favoring local competition;
- being subject to a wide variety of complex foreign laws, treaties, and regulations and adjusting to any unexpected changes in such laws, treaties, and regulations;
- specific and significant regulations, including the European Union’s General Data Protection Regulation, or GDPR, which imposes compliance obligations on companies who possess and use data of EU residents;
- uncertainty and resultant political, financial and market instability arising from market disruptions in the United Kingdom and Europe;
- compliance with U.S. laws affecting activities of U.S. companies abroad, including the U.S. Foreign Corrupt Practices Act;
- tariffs, trade barriers, sanctions, and other regulatory or contractual limitations on our ability to sell or develop our offerings in certain foreign markets;
- operating in countries with a higher incidence of corruption and fraudulent business practices;
- changes in regulatory requirements, including export controls, tariffs and embargoes, other trade restrictions, competition, corporate practices, and data privacy concerns;
- supply chain disruptions, which may be exacerbated by the conflict between Russia and Ukraine and the effects of the COVID-19 pandemic;

- potential adverse tax consequences arising from global operations;
- seasonal reductions in business activity in certain parts of the world, particularly during the summer months in Europe;
- rapid changes in government, economic, and political policies and conditions; and
- political or civil unrest or instability, regional or larger scale conflicts or geo-political actions, including war or other military conflicts (such as the conflict between Russia and Ukraine), terrorism or epidemics, and other similar outbreaks or events.

In addition, digital manufacturing has been identified by the U.S. government as an emerging technology and is currently being further evaluated for national security impacts. We expect additional regulatory changes to be implemented that will result in increased and/or new export controls related to digital manufacturing technologies and related materials and software. These changes, if implemented, may result in our being required to obtain additional approvals to deliver our services in the global market.

Our failure to effectively manage the risks and uncertainties associated with our global operations could limit the future growth of our business and adversely affect our business and operating results.

***Our growth strategy includes exploring strategic partnerships, and we may not be able to establish or maintain such strategic partnerships on terms favorable to us or at all.***

Our growth strategy includes exploring strategic partnerships in order to maximize our potential. On March 26, 2021, we entered into a non-binding Memorandum of Understanding (“MOU”) with Desktop Metal, to establish a multi-year strategic commercial partnership. Pursuant to our MOU, Desktop Metal agreed to invest $20.0 million in the PIPE Investment (as defined in Note 1 to our consolidated financial statements included elsewhere in this Report). In connection with this investment, we were obligated to purchase $20.0 million of equipment, materials and services from Desktop Metal. As of December 31, 2022, we paid $16.3 million to Desktop Metal for equipment, materials and services received and placed purchase orders for another $3.7 million of equipment, materials and services to be purchased under the MOU. The timing of payments for these purchase orders may depend on a number of factors, including Desktop Metal's inventory management and logistics systems and our ability to take delivery of any such equipment, materials and services. While we have no further obligations under the MOU, we have entered into a strategic partnership with Desktop Metal to gain access to Desktop Metal’s additive manufacturing hardware technology, solutions and resources to accelerate our manufacturing capabilities to include an industrial metal offering. We expect this strategic partnership to benefit our customers and our business, however we cannot be certain if such strategic partnership will be commercially successful. In addition, we may decide to postpone the rollout of the equipment purchased which could result in future impairment charges that would adversely affect our financial position.

***We may require additional capital to support business growth, and this capital might not be available on acceptable terms, if at all. If we are unable to raise additional capital, our financial condition could be adversely affected and we may not be able to execute our growth strategy.***

We intend to continue to make investments to support our business growth and may require additional funds to respond to business challenges and opportunities, including the need to develop new features or enhance our offerings, improve our operating infrastructure, or acquire complementary businesses and technologies. Accordingly, we may need to engage in equity or debt financings to secure additional funds if our existing sources of cash and any funds generated from operations do not provide us with sufficient capital. If we raise funds through future issuances of equity or convertible debt securities, including through our existing at-the-market facility (the "ATM Facility"), our existing stockholders could suffer significant dilution, and any new equity securities we issue could have rights, preferences and privileges superior to those of holders of our common stock. Any debt financing that we may secure in the future could involve restrictive covenants relating to our capital raising activities and other financial and operational matters, which may make it more difficult for us to obtain additional capital and to pursue business opportunities, including potential acquisitions. We may not be able to obtain financing on terms favorable to us, if at all. If we are unable to obtain adequate financing or financing on terms satisfactory to us when we require it, our ability to continue to support our business growth and to respond to business challenges and opportunities could be significantly impaired, and our business may be adversely affected.

Our ability to access any existing or future capital is also dependent on the condition of the banking system and financial markets. For example, in March 2023, the Federal Deposit Insurance Corporation (“FDIC”) took control and was appointed receiver of Silicon Valley Bank (“SVB”) and Signature Bank (“Signature”). As of the date of this report, we do not have direct exposure to SVB or Signature, but we cannot predict the broader impact or follow-on effects of these insolvencies. If other banks and financial institutions enter receivership or become insolvent in the future in response to financial conditions affecting the banking system and financial markets, our ability to access our existing cash, cash equivalents and investments may be threatened and could have a material adverse effect on our business and financial condition.

***As part of our growth strategy, we may continue to acquire or make investments in other businesses, patents, technologies, products, or services. We may not realize the anticipated benefits of such investments and integration of these investments may disrupt our business and divert management attention.***

Our business strategy includes growing our business through acquisitions. We may not be able to successfully identify attractive acquisition opportunities or consummate any such acquisitions if we cannot reach an agreement on commercially favorable terms, if we lack sufficient resources to finance the transaction on our own and cannot obtain financing at a reasonable cost, or if regulatory authorities prevent such transaction from being consummated. To date, we have consummated a limited number of acquisitions, and our relative lack of experience may adversely affect the success of future acquisitions. In addition, competition for acquisitions in the markets in which we operate during recent years has increased, and may continue to increase, which may result in an increase in the costs of acquisitions or cause us to refrain from making certain acquisitions.

If we do complete future acquisitions, we cannot assure you that they will ultimately strengthen our competitive position or that they will be viewed positively by customers, financial markets, or investors. Furthermore, acquisitions could pose numerous additional risks to our operations, including:

- diversion of management’s attention from their day-to-day responsibilities;
- unanticipated costs or liabilities associated with the acquisition;
- incurrence of acquisition-related costs, which would be recognized as a current period expense;
- acquisition of a significant amount of goodwill, which could result in future impairment charges that would adversely affect our financial position;
- problems integrating the purchased business, products or technologies;
- challenges in achieving strategic objectives, cost savings and other anticipated benefits;
- inability to maintain relationships with key customers, suppliers, vendors and other third parties on which the purchased business relies;
- the difficulty of incorporating acquired technology and rights into our platform and of maintaining quality and security standards consistent with our brand;
- difficulty in maintaining controls, procedures, and policies during the transition and integration;
- challenges in integrating the new workforce and the potential loss of key employees, particularly those of the acquired business; and
- use of substantial portions of our available cash or the incurrence of debt to consummate the acquisition.

If we proceed with a particular acquisition, we may have to use cash, issue new equity securities with dilutive effects on existing stockholders, incur indebtedness, assume contingent liabilities, or amortize assets or expenses in a manner that might have a material adverse effect on our financial condition and results of operations. Acquisitions require us to record certain acquisition-related costs and other items as current period expenses, which would have the effect of reducing our reported earnings in the period in which an acquisition is consummated. In addition, we could face unknown liabilities or write-offs due to our acquisitions, which could result in a significant charge to our earnings in the period in which they occur. We are also required to record goodwill or other long-lived asset impairment charges (if any) in the periods in which they occur, which could result in a significant charge to our earnings in any such period.

Achieving the expected returns and synergies from acquisitions will depend, in part, upon our ability to integrate the products and services, technology, administrative functions, and personnel of these businesses into our offering lines in an efficient and effective manner, and to retain the customers of acquired companies. We cannot assure you that we will be able to do so, that any acquired businesses will perform at the levels and on the timelines anticipated by our management, or that we will be able to obtain these synergies. In addition, acquired technologies and intellectual property may be rendered obsolete or uneconomical by our own or our competitors’ technological advances. Management resources may also be diverted from operating our existing businesses to certain acquisition integration challenges. If we are unable to successfully integrate acquired businesses, our anticipated revenues and profits may be lower. Our gross margins may also be lower, or diluted, following the acquisition of companies whose gross margins are lower than those of our existing business.

***Global economic conditions may harm our ability to do business, increase our costs and negatively affect our stock price.***

Our performance depends on the financial health and strength of our customers, which in turn is dependent on the economic conditions of the markets in which we and our customers operate. The recent declines in the global economy, volatility in the financial services sector and credit markets, continuing geopolitical uncertainties, increasing inflation, increasing interest rates, and other macroeconomic factors all affect the spending behavior of potential customers.

We also face risks from financial difficulties or other uncertainties experienced by our suppliers, distributors, or other third parties on which we rely. If third parties are unable to supply us with required materials or otherwise assist us in operating our business, our business could be harmed.

For example, the conflict between Russia and Ukraine, the possibility of a trade war or other conflict between the United States and China, the ongoing impact of the COVID-19 pandemic and other supply and labor disruptions may directly or indirectly impact our operations by increasing the cost of raw materials, finished products, or other materials used in our offerings and impeding our ability to sell our offerings in Europe and China. Other changes in U.S. social, political, regulatory, and economic conditions or in laws and policies governing foreign trade, manufacturing, environmental matters, development, and investment could also adversely affect our business. We could experience interruptions in production due to the processing of customs formalities or reduced customer spending in the wake of weaker economic performance. If global economic conditions remain volatile for a prolonged period, our results of operations could be adversely affected.

***Errors or defects in our software or products we manufacture could cause us to incur additional costs, lose revenue and business opportunities, damage our reputation and expose us to potential liability.***

Sophisticated software and complex manufactured products may contain errors, defects, or other performance problems at any point in the life of the product. If errors or defects are discovered in our current or future software or in the products we manufacture for customers, we may not be able to correct them in a timely manner, or provide an adequate response to our customers. We may therefore need to expend significant financial, technical, and management resources, or divert some of our development resources, in order to resolve or work around those defects. We may also experience an increase in our service and warranty costs. Particularly in the medical sector, errors or defects in our software or products could lead to claims by patients against us and our customers and expose us to lawsuits that may damage our and our customers' reputations. Claims may be made by individuals or by classes of users. Our product liability and related insurance policies may not apply or sufficiently cover any product liability lawsuit that arises from defective software or products. Customers such as our collaboration partners may also seek indemnification for third party claims allegedly arising from breaches of warranties under our collaboration agreements.

Errors, defects or other performance problems in our software or products we manufacture may also result in the loss of, or delay in, the market acceptance of our platform and digital manufacturing services. Such difficulties could also cause us to lose customers and, particularly in the case of our largest customers, the potentially substantial associated revenue which would have been generated by our sales to companies participating in our customer's supply chain. Technical problems, or the loss of a customer with a particularly important global reputation, could also damage our own business reputation and cause us to lose new business opportunities.

***Workplace accidents or environmental damage could result in substantial remedial obligations and damage to our reputation.***

Accidents or other incidents that occur at our manufacturing service centers and other facilities or involve our personnel or operations could result in claims for damages against us. In addition, in the event we are found to be financially responsible, as a result of environmental or other laws or by court order, for environmental damages alleged to have been caused by us or occurring on our premises, we could be required to pay substantial monetary damages or undertake expensive remedial obligations. The amount of any costs, including fines or damages payments that we might incur under such circumstances could substantially exceed any insurance we have to cover such losses. Any of these events, alone or in combination, could have a material adverse effect on our business, financial condition, and results of operations and could adversely affect our reputation.

***We have significant customer concentration, with our largest customer accounting for a substantial portion of our revenue.***

Our largest customer accounted for approximately 20% of our revenue for the year ended December 31, 2022. Our future operating results will be affected by both the success of our largest customer and our success in diversifying our products and customer base. If demand for our largest customer's products increases, our results are favorably impacted, while if demand for their products decreases, they may reduce their purchases of, or stop purchasing, our services and our operating results would suffer. While we currently have exclusivity arrangements for a limited time period with our largest customer with respect to such customer's use of third parties for 3D printing, such exclusivity does not preclude the customer insourcing 3D printing capabilities or leveraging other technologies to manufacture their products, which may cause us to lose such customer's business. The loss of our largest customer and failure to add new customers to replace lost revenue would have a material adverse effect on our business, financial condition and results of operations. In addition, should this large customer default in their obligation to pay, our results of operations and cash flows could be adversely affected.

***If our manufacturing facilities are disrupted, we may be unable to fulfill customer orders, which could have an adverse effect on our results of operations.***

We have historically had manufacturing service centers in Eindhoven, the Netherlands and Long Island City, New York. In connection with the acquisition of Linear in May 2022, we assumed the leases for two additional manufacturing facilities in Livonia, Michigan and Charlotte, Michigan. If the operations of these facilities are materially disrupted, whether by fires or other industrial accidents, extreme weather, natural disasters, labor stoppages, acts of terror, war or other military conflict (such as the conflict between Russia and Ukraine), consequences owing to the COVID-19 pandemic, or otherwise, we may be unable to fulfill customer orders for the period of the disruption or need to shift orders to another facility, we would not be able to recognize revenue on unfulfilled orders, we could suffer damage to our reputation, and we might need to modify our standard sales terms to secure the commitment of new customers during the period of the disruption and perhaps longer. Depending on the cause of the disruption, we could incur significant costs to remedy the disruption and resume operations. These delays could be lengthy and costly. If any of our third-party contract manufacturers', suppliers' or customers' facilities are negatively impacted by such a disaster, production, shipment of products could also be delayed. Even if we are able to respond quickly to a disruption at our or any third-party facilities, the continued effects of the disaster could create uncertainty in our business operations.

Our lease of our manufacturing facility in New York expired on January 31, 2023. We began to move equipment from the facility in New York into our recently acquired facility in Livonia, Michigan in September 2022, started parallel production in October 2022 and largely completed the transition to the Livonia facility at the end of December 2022. We have incurred and will continue to incur costs in connection with departures of certain employees that currently work in our existing facility in New York, including costs in connection with bonuses to be paid to certain employees who have agreed to stay employed by us for a period of time before they depart.

Due to risks attendant with the new production facility, there is no assurance that the cost savings and efficiencies and improved production capacity we anticipate will be achieved, particularly if we are unable to successfully integrate the relocated manufacturing operations, or we experience unforeseen or contingent liabilities of the relocated manufacturing operations. In addition, at the new facilities, we must hire and train our workforce to manage and use new production techniques and equipment layouts, and operate the equipment in the new setting, creating the potential for delays, additional costs and potential quality control issues. As a result, we may face difficulties in implementing and maintaining consistent production standards, volumes, controls, procedures, policies and information systems. As the facilities ramp up production, we may be unable to obtain certain necessary or desirable customer or other certifications if we experience significant quality control issues.

Such delays, costs and challenges attendant with new production facilities and techniques could result in the distraction of management and general business disruption, product quality issues or even supply shortages, any of which could adversely affect our operational and financial results and our reputation with our customers.

***We could experience unforeseen difficulties in building and operating key portions of our manufacturing infrastructure.***

We have designed and built our own manufacturing operations and other key portions of our technical infrastructure through which we manufacture products for customers, and we plan to continue to expand the size of our infrastructure through expanding our digital manufacturing facilities, including through our transition to our newly acquired facilities in Michigan. The infrastructure expansion we may undertake may be complex, and unanticipated delays in the completion of these projects or availability of materials may lead to increased project costs, operational inefficiencies, or interruptions in the delivery or degradation of the quality of our products.

***Our business depends in part on our ability to process a large volume of new part designs from a diverse group of customers and successfully identifying significant opportunities for our business based on those submissions.***

We believe the volume of new part designs we process and the size and diversity of our customer base give us valuable insight into the needs of our prospective customers. We utilize this industry knowledge to determine where we should focus our development resources. If the number of new part designs we process or the size and diversity of our customer base decrease, our ability to successfully identify significant opportunities for our business and meet the needs of current and prospective customers could be negatively impacted. In addition, even if we do continue to process a large number of new part designs and work with a significant and diverse customer base, there are no guarantees that any industry knowledge we extract from those interactions will be successfully utilized to help us identify significant business opportunities or better understand the needs of current and prospective customers.

***Interruptions, delays in service or inability to increase capacity, including internationally, at third-party data center facilities could adversely affect our business and reputation.***

Our business, brand, reputation, and ability to attract and retain customers depend upon the satisfactory performance, reliability, and availability of our platform, which in turn, with respect to our SaaS offering, OTTO, depend upon the availability of the internet and our third-party service providers. We rely on third party data center facilities operated by Digital Realty in the United States and EcoRacks in Eindhoven to host our main servers. In addition to Digital Realty and EcoRacks, some of our servers are housed by data centers operated by Amazon Web Services ("AWS"). Our main servers are nearing maximum capacity under our existing contracts with Digital Realty and EcoRacks. To increase server capacity to meet the market demand for our platform, we are in the process of migrating all of our applications and data to AWS provided cloud-based infrastructure services, which we expect to complete in the first half of 2023.

As we continue to migrate our existing third-party data centers to cloud-based infrastructure services, we may experience difficulties such as loss or corruption of data, service interruptions and downtime, increased cyber threats and activity, and unanticipated expenses, including increased costs of implementation. Difficulties in implementing or an inability to effectively implement our migration plans could disrupt our operations and harm our business. As we increase our reliance on cloud-based infrastructure services, our products and services will become increasingly reliant on continued access to, and the continued stability, reliability, and flexibility of, AWS' cloud-based infrastructure. We may in the future be unable to secure additional cloud hosting capacity on commercially reasonable terms or at all. If AWS increases its pricing terms, terminates or seeks to terminate our contractual relationship or changes or interprets their terms of service or policies in a manner that is unfavorable, we may be required to transfer to another provider and may incur significant costs and experience service interruptions.

We do not control the operation of any third-party data center hosting facilities, and they may be subject to damage or interruption from earthquakes, floods, fires, power loss, telecommunications failures, terrorist attacks, war or other military conflict, and similar events. They may also be subject to interruptions due to system failures, computer viruses, software errors, or subject to breaches of computer hardware and software security, break-ins, sabotage, intentional acts of vandalism, and similar misconduct. And while we rely on service level agreements with our hosting providers, if they do not properly maintain their infrastructure or if they incur unplanned outages, our customers may experience performance issues or unexpected interruptions and we may not meet our service level agreement terms with our customers. We have experienced, and expect that in the future we may experience interruptions, delays, and outages in service and availability from time to time due to a variety of factors, including infrastructure changes, human or software errors, website hosting disruptions, and capacity constraints. These and other similar events beyond our control could negatively affect the use, functionality, or availability of our services.

Any damage to, or failure of, our systems, or those of our third-party providers, could interrupt or hinder the use or functionality of our services. Impairment of or interruptions in our services may reduce revenue, subject us to claims and litigation, cause customers to terminate their contracts, and adversely affect our ability to attract new customers. Our business will also be harmed if customers and potential customers believe our services are unreliable.

***Interruptions to or other problems with our website user interface, information technology systems, manufacturing processes, or other operations could damage our reputation and brand and substantially harm our business and results of operations.***

The satisfactory performance, reliability, consistency, security, and availability of our websites and interactive user interface, information technology systems, manufacturing processes, and other operations are critical to our reputation and brand, and our ability to effectively service customers. Any interruptions or other problems that cause any of our websites, interactive user interface, or information technology systems to malfunction or be unavailable, or negatively impact our manufacturing processes or other operations, may damage our reputation and brand, result in lost revenue, cause us to incur significant costs seeking to remedy the problem, and otherwise substantially harm our business and results of operations.

A number of factors or events could cause such interruptions or problems, including among others: human and software errors, design faults, challenges associated with upgrades, changes or new facets of our business, power loss, telecommunication failures, fire, flood, extreme weather, political instability, acts of terrorism, war or other military conflict, break-ins and security breaches, contract disputes, labor strikes and other workforce related issues, capacity constraints due to an unusually large number of customers accessing our websites or ordering parts at the same time, and other similar events. In addition, due to geopolitical conflicts, there is an increased likelihood that escalation of tensions could result in cyberattacks that could either directly or indirectly impact our operations. These risks are augmented by the fact that our customers come to us largely for our quick-turn manufacturing capabilities and that accessibility and turnaround speed are often of critical importance to these customers. We are dependent upon our facilities through which we satisfy all of our production demands and in which we house all of the computer hardware necessary to operate our websites and systems as well as managerial, customer service, sales, marketing, and other similar functions, and we have not identified alternatives to these facilities or established fully redundant systems in multiple locations. In addition, we are dependent in part on third parties for the implementation and maintenance of certain aspects of our communications and production systems, and therefore preventing, identifying, and rectifying problems with these aspects of our systems is to a large extent outside of our control.

Moreover, the business interruption insurance that we carry may not be sufficient to compensate us for the potentially significant losses, including the potential harm to the future growth of our business that may result from interruptions in our service as a result of system failures.

***If we are unable to retain existing customers, sell additional services to our existing customers, or attract new customers, our revenue growth will be adversely affected.***

To increase our revenue, we must retain existing customers, convince them to expand their use of our solutions across their organizations and for a variety of use cases, and expand their purchasing on terms favorable to us. We may not meet our customers' expectations. We experienced a decline in our customer count during the year ended December 31, 2022, and it is uncertain whether such decline is temporary. If we are not able to renew our agreements with existing customers or attract new business from existing customers on favorable terms, this could have an adverse effect on our business, revenue, gross margins, and other operating results. The rate at which our customers purchase new or enhanced solutions from us, as well as the expansion of use of our solutions across organizations, depend on a number of factors, including general economic conditions, customer specific conditions, competitive pricing, integration with existing technologies, and satisfaction and market acceptance of our platform generally. If our efforts to sell additional solutions to our customers are not successful, our business and growth prospects may suffer. Additionally, our future revenue depends in part on our ability to turn our pipeline customers into actual customers. Pipeline customers may fail to accept our offerings, choose our competitors' offerings, or otherwise not turn into customers. If we are not able to turn pipeline or other prospective customers into customers, or customers that provide significant revenues, our business and growth prospects could be adversely affected.

***The loss of one or more key members of our management team or personnel could harm our business.***

We believe our success has depended, and continues to depend, on the efforts and talents of our senior management and other key personnel, including, in particular, our executive officers. Our executive team is critical to the management of our business and operations, as well as to the development of our strategy. Members of our senior management team may resign at any time. The loss of the services of any members of our senior management team could delay or prevent the successful implementation of our strategy or our commercialization of new applications for our systems or other offerings, or could otherwise adversely affect our ability to manage our company effectively and carry out our business plan. Two of our senior executives left the company in 2022, and there is no assurance that if any senior executive leaves in the future, we will be able to rapidly replace him or her and transition smoothly towards his or her successor, without any adverse impact on our operations.

In particular, the loss of the services of Greg Kress, our Chief Executive Officer, could severely damage our business and prospects for growth. Mr. Kress is subject to a non-competition agreement and a proprietary information and inventions agreement which include restrictive covenants. We cannot assure you that if Mr. Kress were to breach these restrictive covenants a court would enforce them and enjoin him from engaging in activities in violation thereof. Moreover, we would have to rescind Mr. Kress' non-competition agreement if the proposed FTC rule goes into effect. The loss of Mr. Kress' services could delay or prevent the successful implementation of our strategy or our commercialization of new applications for our systems or other offerings, or could otherwise adversely affect our ability to manage our company effectively and carry out our business plan, and consequently could have a materially adverse effect on our business, results of operations and financial condition.

***Our current levels of insurance may not be adequate for our potential liabilities.***

We maintain insurance to cover our potential exposure for most claims and losses, including potential product and non-product related claims, lawsuits, and administrative proceedings seeking damages or other remedies arising out of our commercial operations. However, our insurance coverage is subject to various exclusions, self-retentions, and deductibles. We may be faced with types of liabilities that are not covered under our insurance policies, such as environmental contamination or terrorist attacks, or that exceed our policy limits. Even a partially uninsured claim of significant size, if successful, could have an adverse effect on our financial condition.

In addition, we may not be able to continue to obtain insurance coverage on commercially reasonable terms, or at all, and our existing policies may be cancelled or otherwise terminated by the insurer. Maintaining adequate insurance and successfully accessing insurance coverage that may be due for a claim can require a significant amount of our management's time, and we may be forced to spend a substantial amount of money in that process.

***Our actual results may be significantly different from our projections, estimates, targets or forecasts.***

Any projections, estimates, targets, and forecasts we may provide from time to time are forward-looking statements that are based on assumptions that are inherently subject to significant uncertainties and contingencies, many of which are beyond our control. While all projections, estimates, targets and forecasts are necessarily speculative, we believe that the preparation of prospective financial information involves increasingly higher levels of uncertainty the further out the projection, estimate, target, or forecast extends from the date of preparation. The assumptions and estimates underlying the projected, expected, or target results are inherently uncertain and are subject to a wide variety of significant business, economic, regulatory and competitive risks and uncertainties that could cause actual results to differ materially from those contained in such projections, estimates, targets and forecasts. Our projections, estimates, targets and forecast should not be regarded as an indication that Shapeways or its representatives, considered or consider the financial projections, estimates, targets to be a reliable prediction of future events.

**Risks Related to Our Industry**

***If demand for our services does not grow as expected, or if market adoption of digital manufacturing does not continue to develop, or develops more slowly than expected, our revenues may stagnate or decline, and our business may be adversely affected.***

The industrial manufacturing market, which today is dominated by conventional manufacturing processes that do not involve digital manufacturing technology, is undergoing a shift towards digital manufacturing. We may not be able to develop effective strategies to raise awareness among potential customers of the benefits of digital manufacturing technologies or our offerings may not address the specific needs or provide the level of functionality required by potential customers to encourage the continuation of this shift towards digital manufacturing. If digital manufacturing technology does not continue to gain broader market acceptance as an alternative to conventional manufacturing processes, or if the marketplace adopts digital manufacturing technologies developed by our competitors, we may not be able to increase or sustain the level of sales of our services, and our operating results would be adversely affected as a result.

***We could face liability if our digital manufacturing solutions are used by our customers to print dangerous objects.***

Customers may use our digital manufacturing systems to print parts that could be used in a harmful way or could otherwise be dangerous. For example, there have been news reports that 3D printers were used to print guns or other weapons. We have little, if any, control over what objects our customers print using our offerings, and it may be difficult, if not impossible, for us to monitor and prevent customers from printing weapons with our services. There can be no assurance that we will not be held liable if someone were injured or killed by a weapon or other dangerous object containing a component part or parts manufactured for a customer using one of our offerings.

**Risks Related to Intellectual Property and Infrastructure**

***We may incur substantial costs enforcing or acquiring intellectual property rights and defending against third-party claims as a result of litigation or other proceedings. Our failure to expand our intellectual property portfolio could adversely affect the growth of our business and results of operations.***

We may incur substantial expense and costs in protecting, enforcing, and defending our intellectual property rights against third parties. Intellectual property disputes may be costly and can be disruptive to our business operations by diverting attention and energies of management and key technical personnel and by increasing our costs of doing business. Third-party intellectual property claims asserted against us could subject us to significant liabilities, require us to enter into royalty and licensing arrangements on unfavorable terms, prevent us from providing our services to our customers, subject us to injunctions prohibiting or restricting our sale of our services, or require us to redesign our services, causing severe disruptions to our operations or the marketplaces in which we compete or require us to satisfy indemnification commitments with our customers, including contractual provisions under various license arrangements. In addition, we may incur significant costs in acquiring the necessary third-party intellectual property rights for use in our offerings. Any of these could have an adverse effect on our business and financial condition.

Patent applications in the United States and most other countries are confidential for a period of time until they are published, and the publication of discoveries in scientific or patent literature typically lags actual discoveries by several months or more. As a result, the nature of claims contained in unpublished patent filings around the world is unknown to us, and we cannot be certain that we were the first to conceive inventions covered by our patents or patent applications or that we were the first to file patent applications covering such inventions. Furthermore, it is not possible to know in which countries patent holders may choose to extend their filings under the Patent Cooperation Treaty or other mechanisms.

In addition, we may be subject to intellectual property infringement claims from individuals, vendors and other companies, including those that are in the business of asserting patents, but are not commercializing products or services in the field of digital manufacturing, or our customers may seek to invoke indemnification obligations to involve us in such intellectual property infringement claims. Furthermore, although we maintain certain procedures to screen items we manufacture on behalf of customers for infringement on the intellectual property rights of others, we cannot be certain that our procedures will be effective in preventing any such infringement. Any third-party lawsuits or other assertion to which we are subject, alleging infringement of trademarks, patents, trade secrets or other intellectual property rights either by us or by our customers may have a significant adverse effect on our financial condition.

***We may not be able to adequately protect or enforce our intellectual property rights, which could impair our competitive position.***

Our success and future revenue growth will depend, in part, on our ability to protect our intellectual property. We rely primarily on patents, licenses, trademarks, and trade secrets, as well as non-disclosure agreements and other methods, to protect our proprietary technologies and processes globally. Despite our efforts to protect our proprietary technologies and processes, it is possible that competitors or other unauthorized third parties may obtain, copy, use, or disclose our technologies and processes or invent around our patents. We cannot assure you that any of our existing or future patents will not be challenged or invalidated in court or patent office proceedings that could be time-consuming, expensive, and distract us from the operating our business. In addition, competitors could circumvent our patents by inventing around them. As such, any rights granted under these patents may not provide us with meaningful protection. We may not be able to obtain foreign patents corresponding to our United States patents. Even if foreign patents are granted, effective enforcement in foreign countries may not be available. If our patents and other intellectual property do not adequately protect our technology, our competitors may be able to offer services similar to ours. Our competitors may also be able to develop similar technology independently or design around our patents. Any of the foregoing events would lead to increased competition and lower revenue or gross margin, which would adversely affect our business and results of operation.

***Our digital manufacturing software contains third-party open-source software components. Our use of such open- source software may expose us to additional risks and harm our intellectual property and failure to comply with the terms of the underlying open-source software licenses could restrict our ability to sell our offerings.***

Our digital manufacturing software contains components that are licensed under so-called “open source,” “free,” or other similar licenses. Open source software is made available to the general public on an “as-is” basis under the terms of a non-negotiable license. We currently combine our proprietary software with open source software, but not in a manner that we believe requires the release of the source code of our proprietary software to the public. We do not plan to integrate our proprietary software with open source software in ways that would require the release of the source code of our proprietary software to the public; however, our use and distribution of open source software may entail greater risks than use of third-party commercial software. Open source licensors generally do not provide warranties or other contractual protections regarding infringement claims or the quality of the code. In addition, if we combine our proprietary software with open source software in a certain manner, we could, under certain open source licenses, be required to release to the public or remove the source code of our proprietary software. In line with what we believe is standard practice among technology companies, we leverage open source software in the development of our internal software. Open source software is commonly used as a foundation which we develop upon, allowing us to customize the software based on our specific needs. This enables faster development of software, with higher quality, supported by a larger community of developers. We may also face claims alleging noncompliance with open source license terms or infringement or misappropriation of proprietary software. These claims could result in litigation, require us to purchase a costly license, or remove the software. In addition, if the license terms for open source software that we use change, we may be forced to re-engineer our solutions, incur additional costs, or discontinue the sale of our offerings if re-engineering could not be accomplished on a timely basis. Although we monitor our use of open source software to avoid subjecting our offerings to unintended conditions, there is a risk that these licenses could be construed in a way that could impose unanticipated conditions or restrictions on our ability to commercialize our offerings. We cannot guarantee that we have incorporated open source software in our software in a manner that will not subject us to liability or in a manner that is consistent with our current policies and procedures.

***We store confidential customer information in our systems that, if breached or otherwise subjected to unauthorized access, may harm our reputation or brand or expose us to liability.***

Our system stores, processes, and transmits our customers’ confidential information, including the intellectual property in their part designs, credit card information, and other sensitive data. We rely on encryption, authentication, and other technologies licensed from third parties, as well as administrative and physical safeguards, to secure such confidential information. Any compromise of our information security could damage our reputation and brand and expose us to a risk of loss, costly litigation, and liability that would substantially harm our business and operating results. We may not have adequately assessed the internal and external risks posed to the security of our company’s systems and information and may not have implemented adequate preventative safeguards or take adequate reactionary measures in the event of a security incident. During times of war and other major conflicts, we and the third parties upon which we rely may be vulnerable to a heightened risk of these incidents, including cyber-attacks, which could materially disrupt our systems and operations, supply chain, and ability to produce and sell our products and services. We utilize third-party service providers to host, transmit, or otherwise process electronic data in connection with our business. We or our third-party service providers may experience social-engineering attacks, malicious code, malware, denial-of-service attacks, unavailable systems, unauthorized access or disclosure due to employee or other theft, misconduct or misuse, sophisticated attacks by nation-state and nation-state supported actors, advanced persistent threat intrusions, ransomware attacks, supply-chain attacks, software bugs, server malfunctions, software or hardware failures, loss of data or other information technology assets, adware, telecommunications failures, and other similar threats. Future or past business transactions (such as acquisitions) could expose us to additional cybersecurity risks and vulnerabilities, as our systems could be negatively affected by vulnerabilities present in acquired entities' systems and technologies.

While we and our third-party service providers have implemented a number of security measures designed to protect against security breaches, these measures could fail or may be insufficient, resulting in the unauthorized disclosure, modification, misuse, unavailability, destruction, or loss of our or our customers' or employees' data or other sensitive information. A security incident or other interruption could disrupt the ability to provide our platform. We may be unable to detect vulnerabilities in our information technology systems because such threats and techniques change frequently, are often sophisticated in nature, and may not be detected until after a security incident has occurred. Any security breach, or the perception that one has occurred, could result in litigation, indemnity obligations, regulatory enforcement actions, investigations, fines, penalties, mitigation and remediation costs, disputes, reputational harm, diversion of management's attention, and other liabilities and damage to our business. Even though we do not control the security measures of third parties, we may be perceived or asserted to be responsible for any breach of such measures or suffer reputational harm.

In addition, most states have enacted laws requiring companies to notify individuals and often state authorities of data security breaches involving their personal data. These mandatory disclosures regarding a security breach often lead to widespread negative publicity, which may cause our existing and prospective customers to lose confidence in the effectiveness of our data security measures. Any security breach, whether successful or not, would harm our reputation and brand and could cause the loss of customers.

***A real or perceived defect, security vulnerability, error, or performance failure in our software or technical problems or disruptions caused by our third-party service providers could cause us to lose revenue, damage our reputation, and expose us to liability.***

Our business relies on software products which are inherently complex and, despite extensive testing and quality control, have in the past and may in the future contain defects or errors, especially when first introduced, or otherwise not perform as contemplated. As the use of our platform expands, we may be subject to increased scrutiny, potential reputational risk, or potential liability should our software fail to perform as contemplated in such deployments. We have in the past and may in the future need to issue corrective releases of our software to fix these defects, errors, or performance failures and we may encounter technical problems when we attempt to perform routine maintenance or enhance our software, internal applications, and systems, which could require us to allocate significant research and development and customer support resources to address these problems and divert the focus of our management and research and development teams. See "Risks Related to Our Business—Interruptions, delays in service or inability to increase capacity, including internationally, at third-party data center facilities could adversely affect our business and reputation."

Any inefficiencies, security vulnerabilities, errors, defects, technical problems, or performance failures with our software, internal applications, and systems could reduce the quality of our services or interfere with our customers' (and their users') products, which could negatively impact our brand and reputation, reduce demand, lead to a loss of customers or revenue, adversely affect our results of operations and financial condition, increase our costs to resolve such issues, and subject us to financial penalties and liabilities under our service level agreements. Any limitation of liability provisions that may be contained in our customer agreements may not be effective as a result of existing or future applicable law or unfavorable judicial decisions. The sale and support of our software offering entails the risk of liability claims, which could be substantial in light of the use of our software offering in enterprise-wide environments. In addition, our insurance against this liability may not be adequate to cover a potential claim.

**Risks Related to Our Legal and Regulatory Environment**

***We are subject to environmental, health, and safety laws and regulations related to our operations and the use of our digital manufacturing systems and consumable materials, which could subject us to compliance costs and/or potential liability in the event of non-compliance.***

We are subject to domestic and foreign environmental laws and regulations governing our manufacturing operations, including, but not limited to, emissions into the air and water and the use, handling, disposal, and remediation of hazardous substances. A certain risk of environmental liability is inherent in our production activities. These laws and regulations govern, among other things, the generation, use, storage, registration, handling, and disposal of chemicals and waste materials, the presence of specified substances in electrical products, the emission and discharge of hazardous materials into the ground, air or water, the cleanup of contaminated sites, including any contamination that results from spills due to our failure to properly dispose of chemicals and other waste materials and the health and safety of our employees. Under these laws, regulations and requirements, we could also be subject to liability for improper disposal of chemicals and waste materials, including those resulting from the use of our systems and accompanying materials by end- users. Accidents or other incidents that occur at our facilities or involve our personnel or operations could result in claims for damages against us. In the event we are found to be financially responsible, as a result of environmental or other laws or by court order, for environmental damages alleged to have been caused by us or occurring on our premises, we could be required to pay substantial monetary damages or undertake extensive remedial obligations. If our operations fail to comply with such laws or regulations, we may be subject to fines and other civil, administrative, or criminal sanctions, including the revocation of permits and licenses necessary to continue our business activities. In addition, we may be required to pay damages or civil judgments in respect of third-party claims, including those relating to personal injury (including exposure to hazardous substances that we generate, use, store, handle, transport, manufacture, or dispose of), property damage, or contribution claims. Some environmental laws allow for strict, joint and several liabilities for remediation costs, regardless of fault. We may be identified as a potentially responsible party under such laws. The amount of any costs, including fines or damages payments that we might incur under such circumstances, could substantially exceed any insurance we have to cover such losses. Any of these events, alone or in combination, could have a material adverse effect on our business, financial condition, and results of operations and could adversely affect our reputation.

The export of our offerings internationally from our production facilities subjects us to environmental laws and regulations concerning the import and export of chemicals and hazardous substances such as the United States Toxic Substances Control Act and the Registration, Evaluation, Authorization, and Restriction of Chemical Substances. These laws and regulations require the testing and registration of some chemicals that we ship along with, or that form a part of, our systems and other products. If we fail to comply with these or similar laws and regulations, we may be required to make significant expenditures to reformulate the chemicals that we use in our offerings and materials or incur costs to register such chemicals to gain and/or regain compliance. Additionally, we could be subject to significant fines or other civil and criminal penalties should we not achieve such compliance.

The cost of complying with current and future environmental, health, and safety laws applicable to our operations, or the liabilities arising from past releases of, or exposure to, hazardous substances, may result in future expenditures. Any of these developments, alone or in combination, could have an adverse effect on our business, financial condition, and results of operations.

***Our business involves the use of hazardous materials, and we must comply with environmental, health, and safety laws and regulations, which can be expensive and restrict how we do business.***

Our business involves the controlled storage, use, and disposal of hazardous materials. We and our suppliers are subject to federal, state, and local as well as foreign laws and regulations governing the use, manufacture, storage, handling, and disposal of these hazardous materials. Although we believe that the safety procedures utilized by us and our suppliers for handling and disposing of these materials comply with the standards prescribed by these laws and regulations, we cannot eliminate the risk of accidental contamination or injury from these materials. In the event of an accident, state, federal, or foreign authorities may curtail the use of these materials and interrupt our business operations. We do not currently maintain hazardous materials insurance coverage. If we are subject to any liability as a result of activities involving hazardous materials, our business and financial condition may be adversely affected and our reputation and brand may be harmed.

***Regulation in the areas of privacy, data protection, and information security could increase our costs and affect or limit our business opportunities and how we collect and/or use personal information.***

We collect personal information from our employees, prospects, and our customers. Privacy and security laws and regulations may limit the use and disclosure of certain information and require us to adopt certain cybersecurity and data handling practices that may affect our ability to effectively market our services to current, past, or prospective customers. We must comply with privacy laws in the United States, Europe, and elsewhere, including the General Data Protection Regulations, or GDPR in the European Union, which became effective May 25, 2018, and the California Consumer Privacy Act of 2018, or CCPA, which became effective on January 1, 2020. California's latest amendment to the law, the California Privacy Rights Act of 2020, or CPRA, which substantially expands the CCPA, became effective as of January 1, 2023. Virginia has similarly adopted a comprehensive privacy law, the Consumer Data Protection Act, or VCDPA which also took effect January 1, 2023. Colorado, Connecticut, and Utah have also passed comprehensive privacy laws, each which will take effect either in July or December of 2023. While these new state privacy laws emulate the CCPA/CPRA and GDPR in many respects, each has requirements that will require particular assessment. Additionally, ongoing interpretations and enforcement of international privacy laws continue to amend or add to existing compliance obligations, such as under the GDPR with respect to international data transfers. On October 7, 2022, President Biden executed an Executive Order to implement a new European Union-U.S. Data Privacy Framework to address European concerns over international data transfers. If adopted, such framework is set to take effect in 2023. A patchwork of differing and evolving international and domestic privacy and data security requirements may increase the cost and complexity of operating our business and increase our exposure to liability.

These privacy laws create new individual privacy rights and impose increased obligations, including disclosure obligations, on companies handling personal information. Each jurisdiction in the U.S. and European Union have its own obligations surrounding notice of personal data breaches to consumers, and such notification requirements continue to increase in scope and cost. Privacy and security laws and regulations may limit the use and disclosure of certain personal information and require us to adopt certain cybersecurity and data handling practices that may affect our ability to process certain personal information including with respect to marketing our services to current, past, or prospective customers. While we have invested in, and intend to continue to invest in, resources to comply with these standards, we may not be successful in doing so, and any such failure could have an adverse effect on our business, operations, and reputation.

As privacy, data use, and cyber security laws are interpreted and applied, compliance costs may increase, particularly in the context of ensuring that adequate data protection and data transfer mechanisms are in place as we continue to expand. In recent years, there has been increasing regulatory enforcement and litigation activity internationally in this area, including in the United States and the Netherlands in which we operate.

Lastly, privacy laws applicable to the Asian Pacific region (“APAC”) will come with a new set of privacy laws, each which may differ greatly from one another as well as from the GDPR or CPRA. To the extent we expand into Asian markets, we may need to significantly increase our investment in resources to comply with such laws, which will require localized advice and strategy. Any failure to expand into APAC in a compliant manner could have an adverse effect on our business, results of operations, and reputation.

***We are subject to U.S. and foreign anti-corruption laws, trade controls, economic sanctions, and similar laws and regulations. Our failure to comply with these laws and regulations could subject us to civil, criminal, and administrative penalties and harm our reputation.***

We have partners in a number of countries throughout the world, including countries known to have a reputation for corruption. Doing business on a global basis requires us to comply with anti-corruption laws and regulations imposed by governments around the world with jurisdiction over our operations, including the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act 2010, as well as the laws of the countries where we do business. We are also subject to various trade restrictions, including trade and economic sanctions and export controls, imposed by governments around the world with jurisdiction over our operations. For example, in accordance with trade sanctions administered by the Office of Foreign Assets Control and the U.S. Department of Commerce, we are prohibited from engaging in transactions involving certain persons and certain designated countries or territories, including Cuba, Iran, Syria, North Korea, and the Crimea Region of Ukraine. In addition, our offerings are subject to export regulations that can involve significant compliance time and may add additional overhead cost to our offerings. In recent years, the U.S. government has had a renewed focus on export matters. For example, the Export Control Reform Act of 2018 and regulatory guidance have imposed additional controls, and may result in the imposition of further additional controls, on the export of certain “emerging and foundational technologies.” Our current and future offerings may be subject to these heightened regulations, which could increase our compliance costs.

***The requirements of being a public company may strain our resources, divert management's attention, and affect our ability to attract and retain qualified board members.***

We are subject to the reporting requirements of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), the Sarbanes-Oxley Act of 2002 (the "Sarbanes-Oxley Act") and any rules promulgated thereunder, as well as the rules of the New York Stock Exchange (the "NYSE"). The requirements of these rules and regulations have increased our legal and financial compliance costs, made some activities more difficult, time-consuming, or costly, and increased demand on our systems and resources. We intend to continue investing substantial resources to comply with evolving laws, regulations, and standards, and this investment may result in increased general and administrative expenses and a diversion of management's time and attention from business operations to compliance activities.

The Sarbanes-Oxley Act requires, among other things, that we maintain effective disclosure controls and procedures and internal controls for financial reporting. In order to maintain disclosure controls and procedures and internal control over financial reporting that meet these standards, significant resources and management oversight are required, and, as a result, management's attention may be diverted from other business concerns. Although we have already hired additional employees to assist us in complying with these requirements, we may need to hire more employees in the future or engage outside consultants, which will increase our operating expenses.

Changing laws, regulations, and standards relating to corporate governance and public disclosure are creating uncertainty for public companies, increasing legal and financial compliance costs, and making some activities more time-consuming. These factors may also make it difficult for us to attract and retain qualified independent members of our Board of Directors.

As a result of disclosure of information in filings required of a public company, our business and financial condition have become more visible than they were in the past, which may result in an increased risk of threatened or actual litigation, including by competitors and other third parties. If such claims are successful, our business and results of operations could be harmed, and even if the claims do not result in litigation or are resolved in our favor, these claims, and the time and resources necessary to resolve them, could divert the resources of our management and harm our business, results of operations, and financial condition.

***If our internal control over financial reporting or our disclosure controls and procedures are not effective, we may be unable to accurately report our financial results, prevent fraud, or file our periodic reports in a timely manner, which may cause investors to lose confidence in our reported financial information and may lead to a decline in our stock price.***

We are required to comply with certain requirements of the Sarbanes-Oxley Act, and will be required to comply with additional such requirements following the date we are deemed to be an "accelerated filer" or a "large accelerated filer," each as defined in the Exchange Act, which could be as early as our next fiscal year. The standards required for a public company under Section 404(a) of the Sarbanes-Oxley Act are significantly more stringent than those previously required of us as a privately-held company, and requires that we maintain effective internal control over financial reporting and disclosure controls and procedures. In particular, we are required to perform system and process evaluation, document our controls, and perform testing of our key controls over financial reporting to allow management certify on the effectiveness of our internal control over financial reporting, as required by Section 404(a) of the Sarbanes-Oxley Act. When we cease to be an "emerging growth company," we will also be subject to auditor attestation requirements of Section 404(b) of the Sarbanes-Oxley Act and the relevant increased disclosure obligations. Deficiencies in our internal control over financial reporting may be found that may be deemed to be material weaknesses. If we are not able to comply with the requirements of Section 404 in a timely manner, or if we identify deficiencies in our internal control over financial reporting that are deemed to be material weaknesses, the market price of our common stock would likely decline and we could be subject to lawsuits, sanctions, or investigations by regulatory authorities, which would require additional financial and management resources and could harm investor confidence in our business.

***We are an "emerging growth company" and a "smaller reporting company" and the reduced disclosure requirements applicable to emerging growth companies and smaller reporting companies may make our common stock less attractive to investors.***

We are an "emerging growth company," as defined in the JOBS Act. As an emerging growth company, we may follow reduced disclosure requirements and do not have to make all of the disclosures that public companies that are not emerging growth companies do. We will remain an emerging growth company until the earlier of (a) the last day of the fiscal year in which we have total annual gross revenues of $1.235 billion or more; (b) the last day of the fiscal year following the fifth anniversary of the date of the completion of the initial public offering of our predecessor, Galileo Acquisition Corp. ("Galileo"); (c) the date on which we have issued more than $1 billion in nonconvertible debt during the previous three years; or (d) the date on which we are deemed to be a "large accelerated filer" under the rules of the SEC, which means the market value of our common stock that is held by non-affiliates exceeds $700 million as of the prior June 30th. For so long as we remain an emerging growth company, we are permitted and intend to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not emerging growth companies.

In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected to use the extended transition period for complying with new or revised accounting standards; as a result of this election, our financial statements may not be comparable to companies that comply with public company effective dates.

We have chosen and may continue to choose to take advantage of certain of the available exemptions for emerging growth companies. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our share price may be more volatile.

***There can be no assurance that we will be able to remain in compliance with the continued listing standards of the NYSE.***

Our common stock is listed on the NYSE, which imposes, among other requirements, a minimum share price requirement. On August 17, 2022, as previously disclosed, we received a written notice from the NYSE that we were not in compliance with the continued listing standard set forth in Section 802.01C of the NYSE’s Listed Company Manual, as the average closing price of our common stock was less than $1.00 per share over a consecutive 30 trading-day period. There was no immediate impact on the listing of our common stock on the NYSE, subject to our compliance with the NYSE’s other continued listing requirements.

We timely responded to the NYSE with respect to our intent to cure the deficiency, and intend to undertake a reverse stock split, subject to stockholder approval, at our 2023 annual meeting of stockholders to regain compliance. If we are unable to regain compliance with the $1.00 share price rule, the NYSE may initiate procedures to suspend and delist our common stock. There can be no assurance that we will be able to regain compliance with the minimum share price or other continued listing requirements.

Our common stock could also be delisted if (i) our average market capitalization over a consecutive 30 trading-day period is less than $15 million, or (ii) our common stock trades at an “abnormally low” price. In either case, our common stock would be suspended from trading on the NYSE immediately, and the NYSE would begin the process to delist our common stock, subject to our right to appeal under NYSE rules. Additionally, the NYSE considers a listed company to be out of compliance with its continued listing standards if the company’s average global market capitalization over a 30 consecutive trading-day period is less than $50.0 million and, at the same time, the company’s stockholders’ equity is less than $50.0 million. If the company does not regain compliance within a cure period up to a maximum of 18 months, it will be subject to delisting. If any of these were to occur, there is no assurance that any appeal we undertake in these or other circumstances would be successful, nor is there any assurance that we will remain in compliance with the other NYSE continued listing standards.

If we fail to satisfy the NYSE’s continued listing standards, our common stock will be subject to delisting. Delisting from the NYSE would likely have a negative effect on the liquidity and market price of our common stock, reduce the number of investors willing to hold or acquire our common stock, limit or reduce the amount of analyst coverage we receive, and impair your ability to sell or purchase our common stock when you wish to do so. In addition, a delisting from the NYSE might negatively impact our reputation and, as a consequence, our business. Additionally, if we were delisted from the NYSE and we are not able to list our common stock on another national exchange we will not be eligible to use Form S-3 registration statements, which would delay our ability to raise funds in the future, limit the type of offerings of common stock we could undertake, and increase the expenses of any offering.

In the event of a delisting of our common stock, we can provide no assurance that any action taken by us to restore compliance with listing requirements would allow our securities to become listed again, stabilize the market price or improve the liquidity of our common stock, prevent our common stock from dropping below the NYSE minimum share price requirement or prevent future non-compliance with the NYSE’s listing standards. Additionally, if our common stock is not listed on, or becomes delisted from, the NYSE for any reason, and is quoted on the OTC Bulletin Board, an inter-dealer automated quotation system for equity securities that is not a national securities exchange, the liquidity and price of our common stock may be more limited than if we were quoted or listed on the NYSE or another national securities exchange. You may be unable to sell your common stock unless a market can be established or sustained.

**Risks Relating to Ownership of Our Common Stock**

***An active, liquid trading market for our common stock may not be sustained.***

Our common stock is listed on the NYSE under the symbol "SHPW." However, we cannot assure you that an active trading market for our common stock will be sustained. Our securities are very thinly traded. Accordingly, it may be difficult to sell shares of our common stock without significantly depressing the value of the stock. 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. Unless we are successful in developing continued investor interest in our stock, sales of our stock could result in major fluctuations in the price of the stock. The inactive market for our stock may also impair our ability to raise capital to continue to fund operations by issuing equity and may impair our ability to acquire other companies or technologies by using common stock as consideration.

***Our issuance of additional shares of common stock or convertible securities may dilute your ownership of us and could adversely affect our stock price.***

From time to time in the future, we may issue additional shares of our common stock or securities convertible into or exercisable for our common stock pursuant to a variety of transactions, including acquisitions. Additional shares of our common stock may also be issued upon exercise of outstanding stock options and warrants to purchase our common stock. The issuance by us of additional shares of our common stock or securities convertible into or exercisable for our common stock would dilute your ownership of us and the sale of a significant amount of such shares in the public market could adversely affect prevailing market prices of our common stock. Subject to the satisfaction of vesting conditions and the expiration of lockup agreements, shares issuable upon exercise of options will be available for resale immediately in the public market without restriction.

Issuing additional shares of our capital stock, other equity securities, or securities convertible into equity may dilute the economic and voting rights of our existing stockholders, reduce the market price of our common stock, or both. Debt securities convertible into equity could be subject to adjustments in the conversion ratio pursuant to which certain events may increase the number of equity securities issuable upon conversion. Preferred stock, if issued, could have a preference with respect to liquidating distributions or a preference with respect to dividend payments that could limit our ability to pay dividends to the holders of our common stock. Our decision to issue securities in any future offering will depend on market conditions and other factors beyond our control, which may adversely affect the amount, timing, or nature of our future offerings. As a result, holders of our common stock bear the risk that our future offerings may reduce the market price of our common stock and dilute their percentage ownership.

On October 6, 2022, we filed a shelf registration statement, which permits us to offer up to $50.0 million in the aggregate of shares of our common stock, preferred stock, debt securities, warrants and rights in one or more offerings and in any combination, including in units from time to time, subject to certain limitations. Further, as part of the shelf registration statement, we may also sell up to $13.25 million in the aggregate of shares of common stock pursuant to our ATM Facility, subject to certain limitations. The sale of a substantial number of shares pursuant to our ATM Facility, any securities pursuant to the shelf registration statement or otherwise, or anticipation of any such sales, could cause the trading price of our common stock to decline or make it more difficult for us to sell equity or equity-related securities in the future at a time and at a price that we might otherwise desire. In addition, issuances of any shares of our common stock sold pursuant to the ATM Facility or any securities sold pursuant to the shelf registration statement may have a dilutive effect on our existing stockholders. As of December 31, 2022, no sales of shares pursuant to our ATM Facility had been effected.

***Future sales, or the perception of future sales, of our common stock by us or our existing stockholders in the public market could cause the market price for our common stock to decline.***

The sale of substantial amounts of shares of our common stock in the public market, including in connection with the expiration of lock-up restrictions or the ATM Facility, or the perception that such sales could occur, could harm the prevailing market price of shares of our common stock. Furthermore, shares of our common stock reserved for future issuance under our equity plans may become available for sale in the future. These sales, or the possibility that these sales may occur, also might make it more difficult for us to sell equity securities in the future at a time and at a price that we deem appropriate. Additionally, to the extent our warrants are exercised, additional shares of common stock will be issued, which will result in dilution to the holders of common stock and increase the number of shares eligible for resale in the public market. However, there is no guarantee that the warrants will ever be in the money prior to their expiration, and as such, the warrants may expire worthless.

***Our operating results and financial condition may fluctuate on a quarterly and annual basis.***

Our operating results and financial condition fluctuate from quarter-to-quarter and year-to-year and are likely to continue to vary due to a number of factors, many of which are not within our control. Both our business and the digital manufacturing industry are changing and evolving rapidly, and our historical operating results may not be useful in predicting our future operating results. If our operating results do not meet the guidance that we provide to the marketplace or the expectations of securities analysts or investors, the market price of our common stock will likely decline. Fluctuations in our operating results and financial condition may be due to a number of factors, including:

- the degree of market acceptance of digital manufacturing and, specifically, our services;
- our ability to compete with competitors and new entrants into our markets;
- the mix of offerings that we sell during any period;
- the timing of our sales and deliveries of our offerings to customers;
- the geographic distribution of our sales;
- seasonality of our manufacturing business and timing of certain new product offerings;
- changes in our pricing policies or those of our competitors, including our response to price competition;
- changes in the amount that we spend to develop and manufacture new technologies;
- changes in the amounts that we spend to promote our services;
- expenses and/or liabilities resulting from litigation;
- delays between our expenditures to develop and market new or enhanced solutions and the generation of revenue from those solutions;
- unforeseen liabilities or difficulties in integrating our acquisitions or newly acquired businesses;
- disruptions to our information technology systems;
- general economic and industry conditions that affect customer demand, including increasing inflation and interest rates;
- the impact of the COVID-19 pandemic on our customers, suppliers, manufacturers, and operations; and
- changes in accounting rules and tax laws.

In addition, our revenues and operating results may fluctuate from quarter-to-quarter and year-to-year due to our sales cycle and seasonality among our customers. Generally, our digital manufacturing solutions are subject to the adoption and capital expenditure cycles of our customers. Additionally, for our more complex solutions, which may require additional facilities investment, potential customers may spend a substantial amount of time performing internal assessments prior to making a purchase decision. This may cause us to devote significant effort in advance of a potential sale without any guarantee of receiving any related revenues. As a result, revenues and operating results for future periods are difficult to predict with any significant degree of certainty, which could lead to adverse effects on our inventory levels and overall financial condition.

Due to the foregoing factors, and the other risks discussed in this Part I, Item 1A: “Risk Factors,” you should not rely on year-over-year comparisons of our operating results as an indicator of our future performance.

***Our stock price has been and may continue to be volatile or may decline regardless of our operating performance. You may lose some or all of your investment.***

The trading price of our common stock has been and may continue to be volatile. The stock market recently has experienced extreme volatility. This volatility often has been unrelated or disproportionate to the operating performance of particular companies. You may not be able to resell your shares at an attractive price due to a number of factors such as those listed in this section and the following:

- our operating and financial performance and prospects;
- our quarterly or annual earnings or those of other companies in our industry compared to market expectations;
- conditions that impact demand for our services;
- future announcements concerning our business, our customers' businesses, or our competitors' businesses;
- the public's reaction to our press releases, other public announcements, and filings with the SEC;
- the market's reaction to our reduced disclosure and other requirements as a result of being an "emerging growth company" under the JOBS Act or a "smaller reporting company";
- the size of our public float;
- coverage by or changes in financial estimates by securities analysts or failure to meet their expectations;
- market and industry perception of our success, or lack thereof, in pursuing our growth strategy;
- strategic actions by us or our competitors, such as acquisitions or restructurings;
- changes in laws or regulations which adversely affect the manufacturing industry generally or Shapeways specifically;
- changes in accounting standards, policies, guidance, interpretations, or principles;
- changes in senior management or key personnel;
- issuances, exchanges or sales, or expected issuances, exchanges, or sales of our capital stock;
- changes in our dividend policy;
- adverse resolution of new or pending litigation against us; and
- changes in general market, economic, and political conditions in the United States and global economies or financial markets, including those resulting from natural disasters, terrorist attacks, acts of war or other military conflicts, and responses to such events.

These broad market and industry factors may materially reduce the market price of our common stock, regardless of our operating performance. In addition, price volatility may be greater if the public float and trading volume of our common stock continues to be low. As a result, you may suffer a loss on your investment.

***If securities or industry analysts publish inaccurate or unfavorable research or reports about our business, our stock price and trading volume could decline.***

The trading market for our common stock depends, in part, on the research and reports that third-party securities analysts publish about us and the industry in which we operate. We may be unable or slow to attract research coverage and if one or more analysts cease coverage of us, the price and trading volume of our securities would likely be negatively impacted. If any of the analysts that may cover us change their recommendation regarding our common stock adversely, or provide more favorable relative recommendations about our competitors, the price of our common stock would likely decline. If any analyst that may cover us ceases covering us or fails to regularly publish reports on us, we could lose visibility in the financial markets, which could cause the price or trading volume of our common stock to decline. Moreover, if one or more of the analysts who cover us downgrades our common stock, or if our reporting results do not meet their expectations, the market price of our common stock could decline.

***We do not expect to pay any cash dividends for the foreseeable future.***

We currently intend to retain all available funds and any future earnings to fund the development and growth of our business. As a result, we do not anticipate declaring or paying any cash dividends on our common stock in the foreseeable future. Any decision to declare and pay dividends in the future will be made at the discretion of our Board of Directors and will depend on, among other things, our business prospects, results of operations, financial condition, cash requirements and availability, certain restrictions related to our indebtedness, industry trends, and other factors that our Board of Directors may deem relevant. In addition, we may incur additional indebtedness, the terms of which may further restrict or prevent us from paying dividends on our common stock. As a result, you may have to sell some or all of your common stock after price appreciation in order to generate cash flow from your investment, which you may not be able to do. Our inability or decision not to pay dividends, particularly when others in our industry have elected to do so, could also adversely affect the market price of our common stock.

***We may be subject to securities litigation, which is expensive and could divert management attention.***

The market price of our common stock has been and may continue to be volatile and, in the past, companies that have experienced volatility in the market price of their stock have been subject to securities litigation, including class action litigation. Litigation of this type could result in substantial costs and diversion of management's attention and resources, which could have a material adverse effect on our business, financial condition, and results of operations. Any adverse determination in litigation could also subject us to significant liabilities.

***Delaware law and provisions in our charter and bylaws could make a merger, tender offer, or proxy contest difficult, thereby depressing the trading price of our common stock.***

Our charter, bylaws, and Delaware law contain provisions that could depress the trading price of our common stock by acting to discourage, delay, or prevent a change of control of Shapeways or changes in Shapeways that our management or stockholders may deem advantageous. Among other things, our charter and bylaws include the following provisions which:

- provide for a classified board of directors so that not all members of our Board of Directors are elected at one time;
- permit the Board of Directors to establish the number of directors and fill any vacancies and newly created directorships;
- provide that directors may only be removed for cause and only by a super majority vote;
- require super-majority voting to amend certain provisions of our charter and any provision of our bylaws;
- authorize the issuance of "blank check" preferred stock that our Board of Directors could use to implement a stockholder rights plan;
- eliminate the ability of our stockholders to call special meetings of stockholders;
- prohibit stockholder action by written consent, which requires all stockholder actions to be taken at a meeting of our stockholders;
- provide that the Board of Directors is expressly authorized to make, alter, or repeal our bylaws; and
- establish advance notice requirements for nominations for election to our Board of Directors or for proposing matters that can be acted upon by stockholders at annual stockholder meetings.

These provisions, alone or together, could delay or prevent hostile takeovers and changes in control or changes in our management. As a Delaware corporation, we are also subject to provisions of Delaware law, including Section 203 of the Delaware General Corporation Law ("DGCL") which prevents interested stockholders, such as certain stockholders holding more than 15% of our outstanding common stock, from engaging in certain business combinations unless (i) prior to the time such stockholder became an interested stockholder, our Board of Directors approved the transaction that resulted in such stockholder becoming an interested stockholder, (ii) upon consummation of the transaction that resulted in such stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of our common stock, or (iii) following board approval, such business combination receives the approval of the holders of at least two-thirds of our outstanding common stock not held by such interested stockholder at an annual or special meeting of stockholders.

Any provision of our charter, bylaws, or Delaware law that has the effect of delaying, preventing, or deterring a change in control could limit the opportunity for our stockholders to receive a premium for their shares of our common stock and could also affect the price that some investors are willing to pay for our common stock.

***Our charter provides that the Court of Chancery of the State of Delaware and the federal district courts of the United States will be the exclusive forum for substantially all disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers, or employees.***

Our charter provides that the Court of Chancery of the State of Delaware is the exclusive forum for any derivative action or proceeding brought on our behalf, any action asserting a breach of fiduciary duty, any action asserting a claim against us arising pursuant to the DGCL, our charter or bylaws, or any action asserting a claim against us that is governed by the internal affairs doctrine. In addition, if an action is brought outside of Delaware, the stockholder bringing the suit will be deemed to have consented to service of process on such stockholder's counsel.

Our charter provides that any person or entity purchasing or otherwise acquiring or holding any interest in shares of our capital stock shall be deemed to have notice of and consented to the foregoing choice of forum provision.

This provision would not apply to claims brought to enforce a duty or liability created by the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction. Our charter provides further that, unless the Company consents in writing to the selection of an alternative forum, the federal district courts of the United States shall, to the fullest extent permitted by law, be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act. These choices of forum provisions may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers, or other employees and may discourage these types of lawsuits. Furthermore, the enforceability of similar choice of forum provisions in other companies' certificates of incorporation has been challenged in legal proceedings, and it is possible that a court could find these types of provisions to be inapplicable or unenforceable. While the Delaware courts have determined that such choice of forum provisions are facially valid, a stockholder may nevertheless seek to bring a claim in a venue other than those designated in the exclusive-forum provisions, and there can be no assurance that such provisions will be enforced by a court in those other jurisdictions. If a court were to find the exclusive-forum provision contained in our charter to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could harm our business.

**Item 1B. Unresolved Staff Comments**

None.

**Item 2. Properties.**

As of December 31, 2022, we lease a 17,250 square foot manufacturing facility in Livonia, Michigan (which lease expires in March 2026) and a 100,000 square foot manufacturing facility in Charlotte, Michigan (which lease expires in April 2026). We previously leased a 25,000 square foot manufacturing facility in Long Island City, New York, for which the lease expired in January 2023. We did not renew our lease at the Long Island City facility, and now house our production in the Livonia facility. We also lease an 18,837 square foot facility in Eindhoven, Netherlands, and the lease of this facility expires in September 2024.

**Item 3. Legal Proceedings.**

We are from time to time subject to various claims, lawsuits, and other legal and administrative proceedings arising in the ordinary course of business. Some of these claims, lawsuits, and other proceedings may involve highly complex issues that are subject to substantial uncertainties, and could result in damages, fines, penalties, non-monetary sanctions, or relief. Due to the inherent uncertain nature of litigation, the ultimate outcome or actual cost of settlement may materially vary from estimates.

**Item 4. Mine Safety Disclosures.**

Not applicable.

## PART II

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

**Market Information**

Our common stock and warrants are listed on the NYSE under the symbols "SHPW" and "SHPW WS," respectively.

**Holders**

As of March 24, 2023, there were 154 holders of record of our common stock and 7 holders of record of our warrants. We believe a substantially greater number of beneficial owners hold shares of common stock or warrants through brokers, banks or other nominees.

**Dividends**

We have not paid any cash dividends on our common stock to date. We may retain future earnings, if any, for future operations, expansion and debt repayment and have no current plans to pay cash dividends for the foreseeable future. Any decision to declare and pay dividends in the future will be made at the discretion of the Board of Directors and will depend on, among other things, our results of operations, financial condition, cash requirements, contractual restrictions and other factors that the Board of Directors may deem relevant. In addition, our ability to pay dividends may be limited by covenants of any existing and future outstanding indebtedness we or our subsidiaries incur.

**Securities Authorized for Issuance Under Equity Compensation Plans**

The information concerning our equity compensation plans is incorporated by reference herein to the section of the Proxy Statement entitled "Equity Compensation Plan Information.

**Recent Sales of Unregistered Securities; Use of Proceeds from Registered Offerings**

*Unregistered Sales*

None.

*Use of Proceeds*

None.

### Item 6. Selected Financial Data.

Reserved.

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

*The following management's discussion and analysis of financial condition and results of operations describes the principal factors affecting the results of our operations, financial condition, and changes in financial condition for the year ended December 31, 2022. This discussion should be read in conjunction with the accompanying consolidated financial statements, and the notes thereto set forth in Part I, Item 8 of this Report. Some of the information contained in this discussion and analysis or set forth elsewhere in this Report, including information with respect to our plans and strategy for our business and related financing, includes forward-looking statements that involve risks and uncertainties. See "Special Note Regarding Forward-Looking Statements" and "Risk Factors" for a discussion of forward-looking statements and important factors that could cause actual results to differ materially from the results described in or implied by these forward-looking statements.*

**Company Overview**

Shapeways is a leading digital manufacturer combining high quality, flexible, on-demand manufacturing with purpose-built proprietary software to offer customers an end-to-end digital manufacturing platform on which they can rapidly transform digital designs into physical products. Our manufacturing platform offers customers access to high quality manufacturing from start to finish through automation, innovation, and digitization. Our proprietary software, wide selection of materials and technologies, and global supply chain lower manufacturing barriers and accelerate delivery of manufactured parts from prototypes to finished end parts. We combine deep digital manufacturing know-how and software expertise to deliver high quality, flexible on-demand digital manufacturing to a range of customers, from project-focused engineers to large enterprises. Digital manufacturing is the complete digitization of the end-to-end manufacturing process that enables the transition of a digital file to a physical product.

**Key Factors Affecting Operating Results**

We believe that our performance and future success depend on many factors that present significant opportunities for us but also pose risks and challenges, including the following:

*Commercial Launch of New Offerings*

We plan to continue to launch new manufacturing technologies, materials, and finishes. Prior to commercialization, we must complete testing and manufacturing ramp-up either in house or through our network of third-party manufacturing partners. Any delays in the successful completion of these steps or the results of testing may impact our ability or the pace at which we will generate revenue from these offerings. Even if we successfully introduce these new offerings, there is no assurance that they will be accepted by the broader market.

We launched the first phase of our software offering under the brand OTTO in the fourth quarter of 2021, to third-party manufacturers. This phase of the rollout involves activities such as creating awareness of the new offering and ensuring the software can interoperate with systems used by potential customers. We plan to roll out further phases of this software over the next several years. Additionally, in April 2022 we acquired MFG.com ("MFG") and MakerOS, Inc. ("MakerOS"), which we believe will help further our software strategy and is expected to help accelerate OTTO's phased rollout. We believe that offering our OTTO software to other manufacturers will enable us to generate future revenue. However, we have not derived significant revenue from sales of our software to date and may never be successful in doing so. We expect to further commercialize our software, which we expect will provide software customers with an end-to-end software for their manufacturing operations and expand the manufacturing capabilities that they offer to their customers.

*Adoption of Our Digital Manufacturing Solutions*

We believe that the market is shifting toward digitization of manufacturing and approaching an inflection point in the overall adoption of digital manufacturing solutions. We believe that we are well-positioned to take advantage of this market opportunity across an array of industries due to our platform that combines high-quality, flexible, on-demand manufacturing with purpose-built proprietary software. We expect that our results of operations, including revenue and gross margins, will fluctuate for the foreseeable future as businesses continue to shift away from traditional manufacturing processes towards digital manufacturing. The degree to which current and potential customers recognize the benefits of the digitization of manufacturing, and then use our solutions in particular will affect our financial results.

*Pricing, Product Cost and Margins*

To date, the majority of our revenue has been generated by the manufacturing and sales of additively-manufactured end parts.

Software and manufacturing pricing may vary due to market-specific supply and demand dynamics, customer order size, and other factors. Sales of certain products, such as software, have, or are expected to have, higher gross margins than others. As a result, our financial performance depends, in part, on the mix of offerings we sell during a given period. Our financial performance could also be affected by our level of acquisition activity and the timing of any such transactions and could impact the amount of additional revenue we receive in a particular period, as well as gross margins and operating expenses. In addition, we are subject to price competition, and our ability to compete in key markets will depend on the success of our investments in our offerings, and on cost improvements as well as on our ability to efficiently and reliably introduce cost-effective digital manufacturing solutions for our customers.

*Continued Investment and Innovation*

We believe that we are a leader in digital manufacturing solutions, offering high-quality, flexible, on-demand manufacturing coupled with purpose-built proprietary software. Our performance is significantly dependent on the investment we make in our software development efforts and in new digital manufacturing technologies. It is essential that we continually identify and respond to rapidly evolving customer requirements, develop and introduce innovative new offerings, enhance existing solutions and generate customer demand for our offerings. We believe that investment in our digital manufacturing solutions will contribute to long-term revenue growth but, depending on the level of such investment, may adversely affect near-term profitability.

We have also invested, and plan to continue to invest, in increasing our customer focus on middle market and enterprise opportunities, including by hiring business development personnel. We believe we will start to benefit from these investments in the coming quarters, but we expect to continue experiencing near-term impact on our gross margins as we continue to invest in this strategy. Our customer count may continue to decline as we increase our focus on middle market and enterprise opportunities. Additionally, these businesses involve risks that may not be present with smaller customers, including longer sales cycles, which create difficulties in assessing deal cyclicality and may cause our revenue and operating results to vary significantly in future periods.

*Raw Materials, Inflation, and Supply Chain Trends*

Inflationary factors such as increases in the costs of raw materials, packaging materials, purchased product, energy costs, shipping costs and labor costs affect our operating results and financial condition. The ongoing impact of the COVID-19 pandemic, the Russian invasion of Ukraine, geopolitical tensions between the United States and China, and other supply and labor disruptions along with continuing inflationary factors could have a material impact on our future costs and thus a material adverse effect on our financial condition and results of operations in the future. Although we make efforts to minimize the impact of inflationary factors which may include raising prices to our customers in the future, a high rate of pricing volatility associated with raw materials used in our products may have an adverse effect on our operating results. We will continue to work closely with our suppliers and customers, leveraging our global capabilities and expertise to work through supply and other resulting issues.

**Components of Results of Operations**

***Revenue***

The majority of our revenue results from the sales of products that we manufacture for customers, which is designated as “Direct Sales.” During the years ended December 31, 2022 and 2021, approximately 77% and 76% of our revenue was designated as Direct Sales, respectively. This revenue is recognized upon shipment of the manufactured product to the customer. Additionally, Direct Sales for the year ended December 31, 2022 reflects the revenue from the acquisition of Linear AMS ("Linear") in May 2022.

During the years ended December 31, 2022 and 2021, approximately 18% and 23% of our revenue was designated as “Marketplace Sales,” respectively. This revenue is from our customers who sell products that we manufacture for them through our e-commerce website. Sales through this channel are subject to our regular manufacturing fees plus a 3.5% fee on any price markup the customer includes on their product.

Software revenue is recognized (i) upon implementation for implementation fees, (ii) ratably over the term of the agreement for licensing fees, and (iii) upon order processing for the revenue-sharing component of our arrangements. To date, we have not recognized a material amount of revenue from software since this product offering has been limited to only design partners as we developed the complete product offering. We launched the first phase of this offering more broadly under the brand OTTO in the fourth quarter of 2021, and expect to roll out additional phases of our software offering over the next several years. This phase of the software offering provides a limited ordering service for additive manufacturing capabilities fulfilled by us. Additionally, software revenue for the year ended December 31, 2022 reflects the revenue from the April 2022 acquisition of MFG.

***Cost of Revenue***

Our cost of revenue consists of the cost to produce manufactured products and related services. Cost of revenue includes machine costs, material costs, rent costs, personnel costs, and other costs directly associated with manufacturing operations in our factories as well as amounts paid to our third-party contract manufacturers and suppliers. Our cost of revenue also includes depreciation and amortization of equipment, cost of spare or replacement machine parts, machine service costs, shipping and handling costs, and some overhead costs. We expect cost of revenue to increase on an absolute-dollar basis in the future.

We intend to further commercialize our software offering and if we generate material revenue from sales of our software offering, we will separately recognize the related cost of revenue.

***Gross Profit and Gross Margin***

Our gross profit and gross margin are, or may be, influenced by a number of factors, including:

- Market conditions that may impact our pricing;
- Product mix changes between established manufacturing product offerings and new manufacturing and software product offerings;
- Mix changes between products we manufacture in house and through outsourced manufacturers;
- Our cost structure, including rent, materials costs, machine costs, labor rates, and other manufacturing operations costs;
- Our level of investment in new technologies; and
- Our level of acquisition activity and the timing of any such transaction.

***Selling, General and Administrative***

Selling, general and administrative (“SG&A”) expenses consist primarily of employee-related costs for individuals working in our sales and marketing departments, third party consultants and vendors, marketing costs such as search engine marketing and search engine optimization and other advertising costs, as well as personnel-related expenses associated with our executive, finance and accounting, legal, human resources, and supply chain functions, as well as professional fees for legal, audit, accounting and other consulting services along with administrative costs of doing business which include, but are not limited to, rent, utilities, and insurance.

We expect our sales and marketing costs will increase on an absolute-dollar basis as we expand our headcount, initiate new marketing campaigns, and continue to roll out future phases of our software offering.

We expect our general and administrative expenses will continue to increase on an absolute-dollar basis in the near term as a result of operating as a public company, including expenses necessary to comply with the rules and regulations applicable to companies listed on a national securities exchange and related to compliance and reporting obligations pursuant to the rules and regulations of the SEC, as well as expenses for insurance, investor relations, and other administrative and professional services. In addition, we expect to incur additional costs as we hire additional personnel and enhance our infrastructure to support the anticipated growth of the business.

***Research and Development***

Our research and development expenses consist primarily of employee-related personnel expenses, consulting and contractor costs, and software and subscription services used by our research and development personnel, data center, and other technology costs and are typically expensed as incurred. We expect research and development costs will increase on an absolute dollar basis over time as we continue to invest in our software offering.

***Change in Fair Value of Earnout Liability***

Change in fair value of earnout liability is a non-cash gain or loss impacted by the fair value of the earnout liability related to the Linear acquisition.

***Change in Fair Value of Warrant Liabilities***

Change in fair value of warrant liability is a non-cash gain or loss impacted by the fair value of the Private Warrants assumed pursuant to the Merger (as defined in Note 1 to our consolidated financial statements included elsewhere in this Report). In December 2022, the Company and the holders of the Private Warrants entered into letter agreements, pursuant to which such holders agreed that the Private Warrants will be exercisable for cash or on a cashless basis and redeemable on the same terms and subject to the same conditions as the Public Warrants. See Note 12 to our consolidated financial statements included elsewhere in this Repor.

***Interest Expense***

Interest expense consists primarily of interest expense associated with our term loan and our bridge loan. At the Closing of the Business Combination, we repaid and terminated the term loan in full. Immediately prior to the completion of the Business Combination, the bridge loan was converted into shares of common stock of Legacy Shapeways. We had no interest-bearing debt outstanding as of December 31, 2022 and 2021.

***Interest Income***

Interest income primarily consists of interest earned on our investment in marketable securities.

***Other Income***

Other income primarily consists of rental income associated with our sublease of our facility in Michigan.

***Income Tax Benefit (Expense)***

We file consolidated income tax returns in the United States and in various state jurisdictions. Income taxes are accounted for under the asset and liability method. Deferred tax assets and liabilities are recognized for the estimated future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates in effect for the year in which those temporary differences are expected to be recovered or settled. Where applicable, we record a valuation allowance to reduce any deferred tax assets that it determines will not be realizable in the future.

Due to our cumulative losses, we maintain a valuation allowance against our U.S. and state deferred tax assets.

**Results of Operations**

**Comparison of the Year Ended December 31, 2022 and 2021**

*Revenue*

| | Year Ended December 31, | | Change | |
|---|---|---|---|---|
| (Dollars in thousands) | 2022 | 2021 | $ | % |
| **Revenue** | $ 33,157 | $ 33,623 | $ (466) | (1)% |

Revenue for the years ended December 31, 2022 and 2021 was $33.2 million and $33.6 million, respectively, representing a decrease of $0.5 million, or 1% from the prior year period. Excluding the revenue from our acquisitions in 2022, revenue decreased 15%. The 15% decrease was primarily attributable to a 19% decrease in customer count, partially offset by a 4% increase in average revenue per customer.

*Cost of Revenue*

| | Year Ended December 31, | | Change | |
|---|---|---|---|---|
| (Dollars in thousands) | 2022 | 2021 | $ | % |
| **Cost of Revenue** | $ 18,859 | $ 17,673 | $ 1,186 | 7 % |

Cost of revenue for the years ended December 31, 2022 and 2021 was $18.9 million and $17.7 million, respectively, representing an increase of $1.2 million, or 7%. The increase in cost of revenue was primarily due to higher expenses related to investment in new technologies, a more varied product mix, including additional product offerings as a result of acquisitions, and increases in costs of materials, energy and outsourced vendors due to inflationary impacts.

*Gross Profit and Gross Margin*

| | Year Ended December 31, | | Change | |
|---|---|---|---|---|
| (Dollars in thousands) | 2022 | 2021 | $ | % |
| **Gross Profit** | $ 14,298 | $ 15,950 | $ (1,652) | (10)% |

Gross profit for the years ended December 31, 2022 and 2021 was $14.3 million, and $16.0 million, respectively, representing a decrease of $1.7 million or 10%. The decrease in gross profit was driven by a decrease in revenue and an increase in cost of revenue due to a more varied product mix and inflationary impacts.

| | Year Ended December 31, | | Change | |
|---|---|---|---|---|
| | 2022 | 2021 | Points | % |
| **Gross Margin** | 43 % | 47 % | (4) | (9)% |

*Selling, General and Administrative*

SG&A expenses for the years ended December 31, 2022 and 2021 were $27.8 million and $17.7 million, respectively, representing an increase of $10.1 million, or 57%. The increase in SG&A expenses primarily resulted from increases to personnel cost, amortization expense related to the intangibles acquired as part of the acquisitions of Linear, MFG and MakerOS (the "2022 acquisitions"), audit and other spending related to becoming a public company and restructuring costs related to our move out of the Long Island City facility and consolidation of our U.S. manufacturing capabilities in Livonia, Michigan.

*Research and Development*

Research and development expenses for the years ended December 31, 2022 and 2021 were $10.4 million and $6.3 million, respectively, representing an increase of $4.1 million, or 65%. The increase in research and development expenses was primarily due to an increase in personnel cost.

*Change in Fair Value of Earnout Liability*

The change in fair value of the earnout liability resulted in a gain of $1.8 million for the year ended December 31, 2022. The gain related to the decrease in fair value of the estimated earnout liability related to the Linear acquisition. There was no earnout liability for the year ended December 31, 2021 due to the timing of the Linear acquisition.

*Change in Fair Value of Warrant Liabilities*

The change in fair value of the warrant liabilities resulted in a gain of $1.6 million and $8.1 million for the years ended December 31, 2022 and 2021, respectively. The gain related to the decrease in fair value of the Private Warrants and Sponsor Warrants (as defined in Note 1 to our consolidated financial statements included elsewhere in this Report) assumed pursuant to the Merger.

*Interest Expense*

Interest expense for the year ended December 31, 2022 was an insignificant amount, as we had no debt outstanding during 2022. Interest expense for the year ended December 31, 2021 was $0.4 million.

*Interest Income*

Interest income for the year ended December 31, 2022 was $0.1 million. Interest income for the year ended December 31, 2021 was an insignificant amount.

*Other Income*

Other income for the year ended December 31, 2022 was $0.3 million related to rental income associated with our sublease of our facility in Michigan. Other income for the year ended December 31, 2021 was an insignificant amount.

*Income Taxes*

We recorded an insignificant amount of income tax expense (benefit) for the year ended December 31, 2022. Income tax benefit was $0.1 million for the year ended December 31, 2021 related to resolution of a tax assessment charge for 2019 in respect to our Dutch subsidiary, resulting in a refund.

**Non-GAAP Financial Information**

In addition to our results determined in accordance with accounting principles generally accepted in the United States of America (“U.S. GAAP”), we believe that Adjusted EBITDA, a non-GAAP financial measure, is useful in evaluating our operational performance. We use this non-GAAP financial information to evaluate our ongoing operations and for internal planning and forecasting purposes. We believe that this non-GAAP financial information, when reviewed collectively with our U.S. GAAP results, may be helpful to investors in assessing our operating performance.

We define Adjusted EBITDA as net (loss) income excluding debt forgiveness, interest expense, net of interest income, income tax benefit (expense), depreciation and amortization, stock-based compensation, change in fair value of earnout liability, change in fair value of warrant liabilities, acquisition costs, restructuring costs and other (which includes other income and non-operating gains and losses).

We believe that the use of Adjusted EBITDA provides an additional tool for investors to use in evaluating ongoing operating results and trends because it eliminates the effect of financing and capital expenditures and provides investors with a means to compare our financial measures with those of comparable companies, which may present similar non-GAAP financial measures to investors. However, you should be aware that when evaluating Adjusted EBITDA we may incur future expenses similar to those excluded when calculating this measure. In addition, our presentation of Adjusted EBITDA should not be construed as an inference that our future results will be unaffected by unusual or non-recurring items.

Because of these limitations, Adjusted EBITDA should not be considered in isolation or as a substitute for performance measures calculated in accordance with U.S. GAAP. We compensate for these limitations by relying primarily on our U.S. GAAP results and using Adjusted EBITDA on a supplemental basis. You should review the reconciliation of net (loss) income to Adjusted EBITDA below and not rely on any single financial measure to evaluate our business.

The following table reconciles net (loss) income to Adjusted EBITDA for the years ended December 31, 2022 and 2021:

| | Year Ended December 31, | |
|---|---|---|
| (Dollars in thousands) | 2022 | 2021 |
| Net (loss) income | $ (20,221) | $ 1,756 |
| Debt forgiveness | — | (2,000) |
| Interest expense, net | (142) | 403 |
| Depreciation and amortization | 1,514 | 593 |
| Stock based compensation | 2,155 | 2,907 |
| Change in fair value of earnout liability | (1,824) | — |
| Change in fair value of warrant liabilities | (1,584) | (8,106) |
| Income tax expense (benefit) | 31 | (71) |
| Acquisition costs | 373 | — |
| Restructuring costs | 198 | — |
| Other | (254) | 15 |
| **Adjusted EBITDA** | $ (19,754) | $ (4,503) |

**Liquidity and Capital Resources**

We have incurred losses from operations in each of our annual reporting periods since our inception. As of December 31, 2022, we had $30.6 million in cash and cash equivalents, $0.1 million in restricted cash and $9.8 million in marketable securities. We believe that our current cash and cash equivalents will be sufficient to meet our working capital needs for the twelve months following the issuance date of our consolidated financial statements included within this Report.

On October 6, 2022, we filed a shelf registration statement which permits us to offer up to $50 million in the aggregate of (1) shares of our common stock, (2) shares of our preferred stock, which we may issue in one or more series, (3) debt securities, which may be senior debt securities or subordinated debt securities, (4) warrants, (5) rights, or (6) units, in one or more offerings and in any combination. As part of the shelf registration statement, we filed a prospectus supplement registering for sale from time to time up to $13.25 million in the aggregate of shares of common stock pursuant to the ATM Facility, subject to certain limitations. To date, we have not conducted any sales under the ATM Facility.

In September 2021, we consummated the Business Combination which provided a total of approximately $86.8 million in net proceeds after transaction costs.

Our growth strategy includes exploring strategic partnerships. On March 26, 2021, we entered into a non-binding Memorandum of Understanding ("MOU") with Desktop Metal, pursuant to which Desktop Metal agreed to invest $20.0 million in the PIPE Investment. Upon consummation of this investment, we became obligated to purchase $20.0 million of equipment, materials and services from Desktop Metal. In conjunction with these obligations, we and Desktop Metal agreed to develop a strategic partnership. As of December 31, 2022, we paid $16.3 million to Desktop Metal for equipment, materials and services received and placed purchase orders for another $3.7 million of equipment, materials and services to be purchased under the MOU. The timing of payments for these purchase orders may depend on a number of factors, including Desktop Metal's inventory management and logistics systems, and our ability to take delivery of any such equipment, materials and services. We have no further obligations under the MOU.

Our ability to transition to more profitable operations is dependent upon achieving a level of revenue adequate to support our evolving cost structure. We expect to continue to incur net losses in connection with our ongoing activities, particularly as we invest in hiring, growth-related operating expenditures, and capital expenditures in respect of new digital manufacturing technologies. Additionally, we may engage in future acquisitions. If events or circumstances occur such that we do not meet our operating plan as expected, we will be required to reduce corporate overhead or other operating expenses, which could have an adverse impact on our ability to achieve intended business objectives or obtain additional financing. We believe that we have the ability to enact cost savings measures to preserve capital if necessary. There can be no assurance that we will be successful in implementing our business objectives, however, we believe that external sources of funding will be available in such circumstances.

**Cash Flow Summary**

The following table sets forth a summary of cash flows for the period:

| (Dollars in thousands) | Year Ended December 31, 2022 | 2021 |
|---|---|---|
| Net cash used in operating activities | $ (20,575) | $ (8,059) |
| Net cash used in investing activities | (28,759) | (3,960) |
| Net cash provided by financing activities | 339 | 83,267 |
| Net change in cash and cash equivalents and restricted cash | $ (48,995) | $ 71,248 |

*Operating Activities*

Net cash used in operating activities was $20.6 million for the year ended December 31, 2022, primarily consisting of net loss of $20.2 million adjusted for non-cash items including a gain on change in fair value of earnout liability of $1.8 million and gain on change in fair value of warrant liability of $1.6 million, interest receivable of $0.1 million, stock-based compensation expense of $2.2 million, depreciation and amortization expense of $1.5 million and lease expense of $1.0 million. The net change in working capital resulted in a cash outflow of $1.6 million.

Net cash used in operating activities was $8.1 million during the year ended December 31, 2021, primarily due to net income of $1.8 million adjusted for non-cash items including a gain on the change in fair value of warrant liabilities of $8.1 million, debt forgiveness of $2.0 million related to our PPP loan, stock-based compensation expense of $2.9 million, lease expense of $0.8 million and depreciation and amortization expense of $0.6 million. The net change in working capital resulted in an a cash outflow of $4.0 million.

*Investing Activities*

During the year ended December 31, 2022, net cash used in investing activities was $28.8 million, which consisted of $10.1 million for purchases of property and equipment, purchase of marketable securities of $9.8 million, and $8.9 million related to net cash paid for the 2022 acquisitions.

During the year ended December 31, 2021 net cash used in investing activities was $4.0 million for purchases of property and equipment.

*Financing Activities*

During the year ended December 31, 2022, net cash provided by financing activities was $0.3 million resulting from proceeds from exercises of employee stock options.

During the year ended December 31, 2021, net cash provided by financing activities was $83.3 million resulting primarily from the effect of the Business Combination, (net of transaction costs) of $86.8 million, $0.6 million from proceeds from exercises of employee stock options and $0.1 million from proceeds from exercise of preferred stock warrants, partially offset by repayments of loans payable of $3.6 million and $0.6 million of tax payments related to shares withheld for vested restricted stock units.

**Contractual Obligations and Commitments**

See Note 11, Commitments and Contingencies, of the notes to the consolidated financial statements for the years ended December 31, 2022 and 2021 included elsewhere in this Report for further discussion of our commitments and contingencies.

**Off-Balance Sheet Arrangements**

We have no off-balance sheet arrangements and do not utilize any “structured debt,” “special purpose” or similar unconsolidated entities for liquidity or financing purposes.

**Critical Accounting Estimates**

Our discussion and analysis of financial condition and results of operations are based upon our consolidated financial statements, which have been prepared in accordance with U.S. GAAP. Certain of our accounting policies require the application of judgment in selecting the appropriate assumptions for calculating financial estimates. By their nature, these judgments are subject to an inherent degree of uncertainty. We periodically evaluate the judgments and estimates used for our critical accounting policies to ensure that such judgments and estimates are reasonable for our interim and year-end reporting requirements. These judgments and estimates are based on our historical experience (where available), current trends and information available from other sources, as appropriate. If different conditions result from those assumptions used in its judgments, the results could be materially different from our estimates. To the extent that there are material differences between these estimates and actual results, our consolidated financial statements will be affected.

*Revenue Recognition*

We recognize revenue from sale of products (both direct sales and marketplace sales) upon transfer of control, which is generally at the point of shipment.

Our software contracts with customers often include promises to transfer multiple software elements to the customer. Revenue from sale of software may be recognized over the life of the associated software contract or as services are performed, depending on the nature of the services being provided. Judgment is required to determine the separate performance obligations present in a given contract, which we have concluded are generally capable of being distinct and accounted for as separate performance obligations. We use standalone selling price (“SSP”) to allocate revenue to each performance obligation. Significant judgment is required to determine the SSP for each distinct performance obligation in a contract.

We provide a platform for shop owners to sell their products to customers through our marketplace website. We receive a 3.5% markup fee from the shop owner upon the sale of any products through the marketplace. We handle the financial transaction, manufacturing, distribution and customer service on behalf of the shop owners. We are responsible for billing the customer in this arrangement and transmitting the applicable fees to the shop owner. We assess whether we are responsible for providing the actual product or service as a principal, or for arranging for the product or service to be provided by the third party as an agent. Judgment is applied to determine whether we are the principal or the agent by evaluating whether we have control of the product or service prior to it being transferred to the customer. The principal versus agent assessment is performed at the performance obligation level. Indicators that we consider include whether we have the primary responsibility for fulfilling the promise to provide the specified product or service to the customer and whether we have inventory risk prior to transferring the product or service to the customer. We have the responsibility to fulfill the promise to provide the specific good or service on behalf of the shop owners to the customer. In addition, we have inventory risk before the specific good or service is transferred to a customer. As such, we are deemed the principal and shall recognize revenue on a gross basis for the price we charge to the shop owner for each product or service.

*Goodwill Impairment*

Goodwill, which represents the excess of purchase prices over the fair value of net assets acquired, is carried at cost. Goodwill is not amortized; rather, it is subject to a periodic assessment for impairment by applying a fair value-based test. Goodwill is evaluated for impairment on an annual basis at a level of reporting referred to as the reporting unit, and more frequently if adverse events or changes in circumstances indicate that the asset may be impaired.

Under ASC 350, Intangibles - Goodwill and Other, we have the option to first assess the qualitative factors to determine whether it is more likely than not that the fair value of the reporting unit is less than its carrying amount as a basis for determining whether it is necessary to perform a quantitative goodwill impairment test. If we determine that it is more likely than not that the fair value of a reporting unit is less than its carrying amount, then the goodwill impairment test is performed. Impairment tests are performed on a quarterly basis. Management uses the future discounted cash flows valuation approach to determine the fair value of reporting units and determines whether the fair value of reporting units exceeded its carrying amounts. If the fair value exceeds the carrying amount, then no impairment is recognized. If the carrying amount recorded exceeds the fair value calculated, then an impairment charge is recognized for the difference. The impairment review requires management to make judgments in determining various assumptions with respect to revenues, operating margins, growth rates and discount rates. The judgments made in determining the projected cash flows used to estimate the fair value can materially impact our financial condition and results of operations.

**Recent Accounting Pronouncements**

Refer to Note 2 of the consolidated financial statements included elsewhere in this Report.

**Item 7A. Quantitative and Qualitative Disclosures About Market Risk**

We are a smaller reporting company as defined in Rule 12b-2 under the Exchange Act. As a result, pursuant to Item 305(e) of Regulation S-K, we are not required to provide the information required by this Item.

**Item 8. Financial Statements and Supplementary Data**

This information is incorporated by reference beginning on page F-1 of this report.

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

None.

**Item 9A. Controls and Procedures**

**Disclosure Controls and Procedures**

*Evaluation of Disclosure Controls and Procedures*

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our reports filed under the Securities Exchange Act of 1934, as amended, is recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer or persons performing similar functions, to allow for timely decisions regarding required disclosure. In accordance with Rules 13a-15(b) under the Exchange Act, we carried out an evaluation, under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of our disclosure controls and procedures as of December 31, 2022.

Based on this evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that during the period covered by this Report, our disclosure controls and procedures were effective at a reasonable assurance level and, accordingly, provided reasonable assurance that the information required to be disclosed by us in reports filed under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms.

**Management’s Report on Internal Control Over Financial Reporting**

Our management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act as a process designed by, or under the supervision of, our principal executive and principal financial officers and effected by our board of directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles and includes those policies and procedures that:

- pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of Shapeways' assets;
- provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of Shapeways' management and directors; and
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of Shapeways' assets that could have a material effect on the financial statements.

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in Internal Control—Integrated Framework, issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 Framework). Based on our evaluation, our management concluded that our internal control over financial reporting was effective as of December 31, 2022.

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

**Changes in Internal Control Over Financial Reporting**

There were no changes in our internal control over financial reporting identified in management's evaluation pursuant to Rules 13a-15(d) or 15d-15(d) of the Exchange Act during the quarter ended December 31, 2022 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

**Item 9B. Other Information.**

None.

**Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections.**

Not applicable.

## PART III

### Item 10. Directors, Executive Officers and Corporate Governance.

The information required by this item will be included in our Proxy Statement for the 2023 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2022, and is incorporated herein by reference.

We have adopted a code of ethics, called the Code of Conduct, which applies to our officers, including our principal executive, financial and accounting officers, and our directors and employees. We have posted the Code of Conduct on our website at https://investors.shapeways.com/ under the "Governance Documents" section. We intend to make all required disclosures concerning any amendments to, or waivers from, the Code of Conduct on our website.

### Item 11. Executive Compensation

The information required by this item will be included in our Proxy Statement for the 2023 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2022, 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 included in our Proxy Statement for the 2023 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2022, and is incorporated herein by reference.

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

The information required by this item will be included in our Proxy Statement for the 2023 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2022, and is incorporated herein by reference.

### Item 14. Principal Accountant's Fees and Services

The information required by this item will be included in our Proxy Statement for the 2023 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the fiscal year ended December 31, 2022, and is incorporated herein by reference.

## Part IV

### Item 15. Exhibits and Financial Statement Schedules.

a. The following documents are filed as part of this Report:
    i. Financial Statements (see pages F-1 through F-29 of this Report):
        1. Report of Independent Registered Public Accounting Firm
        2. Consolidated Balance Sheets
        3. Consolidated Statements of Operations and Comprehensive Loss
        4. Consolidated Statements of Preferred and Common Stock and Stockholder's Equity (Deficit)
        5. Consolidated Statements of Cash Flows
        6. Notes to Consolidated Financial Statements
    ii. Financial Statement Schedules:
        1. All financial statement schedules are omitted because the information is inapplicable or presented in the notes to the financial statements.

b. The exhibits listed in the accompanying index to exhibits are filed or incorporated by reference as part of this Report.

### Item 16. Form 10-K Summary

None.

## INDEX TO EXHIBITS

| Exhibit No. | Description |
|---|---|
| 2.1+ | Agreement and Plan of Merger and Reorganization, dated as of April 28, 2021, by and among Galileo, Galileo Founders Holdings, L.P., in the capacity as the Purchaser Representative thereunder, Shapeways, Inc., and Fortis Advisors LLC, in the capacity as the Seller Representative thereunder (incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K (File No. 001-39092), filed with the SEC on October 5, 2021). |
| 3.1 | Certificate of Incorporation of Shapeways Holdings, Inc. (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K (File No. 001-39092), filed with the SEC on October 5, 2021). |
| 3.2 | Bylaws of Shapeways Holdings, Inc. (incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K (File No. 001-39092), filed with the SEC on October 5, 2021). |
| 4.1 | Warrant Agreement, dated as of October 17, 2019, between Galileo and Continental Stock Transfer & Trust Company, as Warrant Agent (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K (File No. 001-39092), filed with the SEC on October 5, 2021). |
| 4.2 | Form of Letter Agreement with respect to Private Placement Warrants by and between Shapeways Holdings, Inc. and each holder of the Company's Private Placement Warrants (incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K (File No. 001-39092), filed with the SEC on December 13, 2022). |
| 4.3 | Certificate of Corporate Domestication of Galileo Acquisition Corp. (incorporated by reference to Exhibit 3.3 to the Company's Registration Statement on Form S-1 (File No. 333-260387), filed with the SEC on October 20, 2021). |
| 4.4* | Description of Registrant's Securities registered pursuant to Section 12 of the Securities Exchange Act of 1934. |
| 10.1 | Share Escrow Agreement, dated October 17, 2019, by and between Galileo, the Sponsor and Continental Stock Transfer & Trust Company (incorporated by reference to Exhibit 10.4 to the Company's Current Report on Form 8-K (File No. 001-39092), filed with the SEC on October 5, 2021). |
| 10.2 | Amendment to Share Escrow Agreement, dated as of September 29, 2021, by and among Galileo Acquisition Corp., Galileo Founders Holdings, L.P., Continental Stock Transfer & Trust Company, as escrow agent (incorporated by reference to Exhibit 10.5 to the Company's Current Report on Form 8-K (File No. 001-39092), filed with the SEC on October 5, 2021). |
| 10.3 | Registration Rights Agreement, dated September 29, 2021, by and among Galileo Acquisition Corp. and the investors party thereto (incorporated by reference to Exhibit 10.22 to the Company's Current Report on Form 8-K (File No. 001-39092), filed with the SEC on October 5, 2021). |
| 10.4 | First Amendment to Registration Rights Agreement, dated September 29, 2021, by and among Galileo Acquisition Corp., Galileo Founders Holdings, L.P. and the investors party thereto (incorporated by reference to Exhibit 10.21 to the Company's Current Report on Form 8-K (File No. 001-39092), filed with the SEC on October 5, 2021). |
| 10.5# | Shapeways, Inc. 2010 Stock Plan, as amended (incorporated by reference to Exhibit 10.17.1 to the Company's Current Report on Form 8-K (File No. 001-39092), filed with the SEC on October 5, 2021). |
| 10.6# | Shapeways Holdings, Inc. 2021 Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.19 to the Company's Current Report on Form 8-K (File No. 001-39092), filed with the SEC on October 5, 2021). |
| 10.7# | Shapeways Holdings, Inc. 2022 New Employee Equity Incentive Plan and forms of agreements thereunder (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K (File No. 001-39092), filed with the SEC on September 16, 2022). |
| 10.8# | Shapeways Holdings, Inc. 2021 Equity Incentive Plan and forms of agreements thereunder (incorporated by reference to Exhibit 10.2 to the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2022 (File No. 001-39092), filed with the SEC on November 14, 2022). |
| 10.9#* | Form of Stock Option Agreement under the Shapeways Holdings, Inc. 2021 Equity Incentive Plan, as amended. |
| 10.10# | Form of Stock Option Agreement with Greg Kress under the Shapeways, Inc. 2010 Stock Plan, as amended (incorporated by reference to Exhibit 10.17.2 to the Company's Current Report on Form 8-K (File No. 001-39092), filed with the SEC on October 5, 2021). |
| 10.11# | Form of Stock Option Agreement with Jennifer Walsh under the Shapeways, Inc. 2010 Stock Plan, as amended (incorporated by reference to Exhibit 10.17.3 to the Company's Current Report on Form 8-K (File No. 001-39092), filed with the SEC on October 5, 2021). |
| 10.12# | Employment Agreement, dated as of July 19, 2021, by and between Shapeways Holdings, Inc. and Greg Kress (incorporated by reference to Exhibit 10.11 to the Company's Current Report on Form 8-K (File No. 001-39092), filed with the SEC on October 5, 2021). |
| 10.13# | Employment Agreement, dated as of July 19, 2021, by and between Shapeways Holdings, Inc. and Jennifer Walsh (incorporated by reference to Exhibit 10.12 to the Company's Current Report on Form 8-K (File No. 001-39092), filed with the SEC on October 5, 2021). |
| 10.14# | Offer Letter, dated April 27, 2022, by and between Shapeways Holdings, Inc. and Joseph Andrew Nied (incorporated by reference to Exhibit 99.2 to the Company's Current Report on Form 8-K (File No. 001-39092), filed with the SEC on May 16, 2022). |
| 10.15# | Offer Letter, dated as of September 15, 2022, by and between Shapeways Holdings, Inc. and Alberto Recchi (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-39092), filed with the SEC on September 16, 2022). |
| 10.16# | Separation Agreement, dated as of October 12, 2022, by and between Shapeways Holdings, Inc. and Jennifer Walsh (incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-39092), filed with the SEC on October 13, 2022). |
| 10.17 | Warrant Subscription Agreement, dated October 17, 2019, by and between Galileo and Galileo Founders Holdings, L.P. (incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K (File No. 001-39092), filed with the SEC on October 5, 2021). |

| | |
|---|---|
| **10.18** | Warrant Subscription Agreement, dated October 17, 2019, by and between Galileo and EarlyBirdCapital, Inc. (incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K (File No. 001-39092), filed with the SEC on October 5, 2021). |
| **10.19#** | Non-Competition Agreement, effective as of April 28, 2021, by and among Galileo, Shapeways, and Greg Kress (incorporated by reference to Exhibit 10.7 to the Company's Current Report on Form 8-K (File No. 001-39092), filed with the SEC on October 5, 2021). |
| **10.20** | Form of Subscription Agreement, dated as of April 28, 2021, by and among Galileo, Shapeways, Inc., and the subscriber party thereto (incorporated by reference to Exhibit 10.9 to the Company's Current Report on Form 8-K (File No. 001-39092), filed with the SEC on October 5, 2021). |
| **10.21** | Memorandum of Understanding, dated as of March 26, 2021, by and between Shapeways, Inc. and Desktop Metal (incorporated by reference to Exhibit 10.14 to the Company's Current Report on Form 8-K (File No. 001-39092), filed with the SEC on October 5, 2021). |
| **10.22#** | Form of Indemnification Agreement (incorporated by reference to Exhibit 10.23 to the Company's Current Report on Form 8-K (File No. 001-39092), filed with the SEC on October 5, 2021). |
| **21.1*** | Subsidiaries of the Registrant. |
| **23.1*** | Consent of Withum Smith+Brown |
| **24.1*** | Power of Attorney (contained in the signature page to this Report). |
| **31.1** | Certification of the Chief Executive Officer required by Rule 13a-14(a) or Rule 15d-14(a)* |
| **31.2** | Certification of the Chief Financial Officer required by Rule 13a-14(a) or Rule 15d-14(a)* |
| **32.1** | Certification of the Chief Executive Officer required by Rule 13a-14(b) or Rule 15d-14(b) and 18 U.S.C. 1350** |
| **32.2** | Certification of the Chief Financial Officer required by Rule 13a-14(b) or Rule 15d-14(b) and 18 U.S.C. 1350** |
| **101.INS** | Inline XBRL Instance Document |
| **101.SCH** | Inline XBRL Taxonomy Extension Schema |
| **101.CAL** | Inline XBRL Taxonomy Extension Calculation Linkbase |
| **101.DEF** | Inline XBRL Taxonomy Extension Definition Linkbase |
| **101.LAB** | Inline XBRL Taxonomy Extension Label Linkbase |
| **101.PRE** | Inline XBRL Taxonomy Extension Presentation Linkbase |
| **104** | Cover Page Interactive Data File (embedded within the Inline XBRL document) |

| | |
|---|---|
| * | Filed herewith. |
| ** | Furnished herewith. |
| + | The schedules and exhibits to this agreement have been omitted pursuant to Item 601(a)(5) of Regulations S-K. A copy of any omitted schedule and/or exhibit will be furnished to the SEC upon request. |
| # | Indicates a management or compensatory plan. |

## SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized.

**Shapeways Holdings, Inc.**

Dated: March 30, 2023

By: /s/ Alberto Recchi
Alberto Recchi
Chief Financial Officer
*(Principal Financial and Accounting Officer)*

KNOW ALL PERSONS BY THESE PRESENTS that each person whose signature appears below constitutes and appoints Greg Kress and Alberto Recchi and each of them, his or her true and lawful attorneys-in-fact and agents, each with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments to this report, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that each of said attorneys-in-fact and agents or their substitute or substitutes may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, this Report has been signed below by the following persons on behalf of the registrant in the capacities and on the dates indicated.

| Name | Title | Date |
|---|---|---|
| /s/ Greg Kress<br>Greg Kress | Chief Executive Officer and Director<br>(*Principal Executive Officer*) | March 30, 2023 |
| /s/ Alberto Recchi<br>Alberto Recchi | Chief Financial Officer and Director<br>(*Principal Financial and Accounting Officer*) | March 30, 2023 |
| /s/ Leslie Campbell<br>Leslie Campbell | Chairman of the Board | March 30, 2023 |
| /s/ Rajeev Batra<br>Rajeev Batra | Director | March 30, 2023 |
| /s/ Robert Jan Galema<br>Robert Jan Galema | Director | March 30, 2023 |
| /s/ Patrick S. Jones<br>Patrick S. Jones | Director | March 30, 2023 |
| /s/ Ryan Kearny<br>Ryan Kearny | Director | March 30, 2023 |
| /s/ Josh Wolfe<br>Josh Wolfe | Director | March 30, 2023 |

## INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

# REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and Board of Directors of Shapeways Holdings, Inc.

***Opinion on the Financial Statements***

We have audited the accompanying consolidated balance sheets of Shapeways Holdings, Inc. and Subsidiaries (the "Company") as of December 31, 2022 and 2021, and the related consolidated statements of operations and comprehensive loss, changes in stockholders' equity (deficit), and cash flows for each of the two years in the period ended December 31, 2022, and 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 two years in the period ended December 31, 2022, in conformity with accounting principles generally accepted in the United States of America.

***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 in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit 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 financial statements. We believe that our audits provide a reasonable basis for our opinion.

*/s/ WithumSmith+Brown, PC*

We have served as the Company's auditor since 2020.

East Brunswick, New Jersey

*March 30, 2022*

*PCAOB ID - 100*

**SHAPEWAYS HOLDINGS, INC.**
**CONSOLIDATED BALANCE SHEETS**
*(in thousands, except share and per share amounts)*

| | December 31, 2022 | December 31, 2021 |
|---|---|---|
| **Assets** | | |
| Current assets | | |
| Cash and cash equivalents | $ 30,630 | $ 79,677 |
| Restricted cash | 139 | 142 |
| Short-term investments | 9,816 | — |
| Accounts receivable | 1,606 | 1,372 |
| Inventory | 1,307 | 927 |
| Prepaid expenses and other current assets | 6,255 | 4,360 |
| Total current assets | 49,753 | 86,478 |
| Property and equipment, net | 15,627 | 4,388 |
| Right-of-use assets, net | 2,365 | 842 |
| Goodwill | 6,286 | 1,835 |
| Intangible assets, net | 5,398 | — |
| Security deposits | 99 | 175 |
| Total assets | $ 79,528 | $ 93,718 |
| **Liabilities and stockholders' equity** | | |
| Current liabilities | | |
| Accounts payable | $ 2,354 | $ 1,909 |
| Accrued expenses and other liabilities | 5,950 | 2,645 |
| Operating lease liabilities, current | 719 | 639 |
| Deferred revenue | 972 | 921 |
| Total current liabilities | 9,995 | 6,114 |
| Operating lease liabilities, net of current portion | 1,715 | 326 |
| Deferred tax liabilities, net | 27 | — |
| Warrant liabilities | — | 2,274 |
| Total liabilities | 11,737 | 8,714 |
| Commitments and contingencies | | |
| Stockholders' equity | | |
| Preferred stock ($0.0001 par value; 10,000,000 shares authorized; none issued and outstanding as of December 31, 2022 and 2021, respectively) | — | — |
| Common stock ($0.0001 par value; 120,000,000 shares authorized; 49,445,174 and 48,627,739 shares issued and outstanding as of December 31, 2022 and 2021, respectively) | 5 | 5 |
| Additional paid-in capital | 201,362 | 198,179 |
| Accumulated deficit | (133,032) | (112,811) |
| Accumulated other comprehensive loss | (544) | (369) |
| Total stockholders' equity | 67,791 | 85,004 |
| Total liabilities and stockholders' equity | $ 79,528 | $ 93,718 |

The accompanying notes are an integral part of these audited consolidated financial statements.

**SHAPEWAYS HOLDINGS, INC.**
**CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS**
*(in thousands, except share and per share amounts)*

| | Year Ended December 31, | |
|---|---|---|
| | 2022 | 2021 |
| Revenue, net | $ 33,157 | $ 33,623 |
| Cost of revenue | 18,859 | 17,673 |
| Gross profit | 14,298 | 15,950 |
| Operating expenses | | |
| Selling, general and administrative | 27,847 | 17,694 |
| Research and development | 10,409 | 6,281 |
| Total operating expenses | 38,256 | 23,975 |
| Loss from operations | (23,958) | (8,025) |
| Other income (expense) | | |
| Long-term debt forgiveness | — | 2,000 |
| Interest expense | (7) | (404) |
| Change in fair value of earnout liabilities | 1,824 | — |
| Change in fair value of warrant liabilities | 1,584 | 8,106 |
| Interest income | 149 | 1 |
| Other income | 267 | 7 |
| Loss on disposal of assets | (49) | — |
| Total other income (expense), net | 3,768 | 9,710 |
| (Loss) income before income tax expense (benefit) | (20,190) | 1,685 |
| Income tax expense (benefit) | 31 | (71) |
| Net (loss) income | (20,221) | 1,756 |
| Deemed dividend - Earnout Shares | — | (18,132) |
| Net loss attributable to common stockholders | (20,221) | (16,376) |
| Net (loss) income per share: | | |
| Basic | $ (0.38) | $ 0.04 |
| Diluted | $ (0.38) | $ 0.04 |
| Net loss per share attributable to common stockholders: | | |
| Basic | $ (0.38) | $ (0.40) |
| Diluted | $ (0.38) | $ (0.40) |
| Weighted average common shares outstanding:(1) | | |
| Basic | 52,998,563 | 41,040,637 |
| Diluted | 52,998,563 | 41,040,637 |
| Other comprehensive loss | | |
| Foreign currency translation adjustment | (175) | (92) |
| Comprehensive loss | $ (20,396) | $ (16,468) |

(1) Retroactively restated the common shares for 2021 due to the reverse recapitalization as described in Note 12.

The accompanying notes are an integral part of these audited consolidated financial statements.

**SHAPEWAYS HOLDINGS, INC.**
**CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS’ EQUITY (DEFICIT)**
*(in thousands, except share and per share amounts)*

| | Common Stock | | | | | |
|---|---|---|---|---|---|---|
| | Shares | Amount | Additional Paid-In Capital | Accumulated Deficit | Accumulated Other Comprehensive Loss | Total Stockholders' Equity (Deficit) |
| **Balance at January 1, 2021** | 32,184,263 | $ 3 | $ 112,994 | $ (114,567) | $ (277) | $ (1,847) |
| Issuance of Legacy Shapeways common stock upon exercise of stock options | 1,212,430 | — | 552 | — | — | 552 |
| Issuance of Legacy Shapeways convertible Series B-1 preferred stock resulting from exercise of warrants | 19,177 | — | 60 | — | — | 60 |
| Issuance of Legacy Shapeways common stock upon conversion of convertible notes | 1,406,741 | — | 5,913 | — | — | 5,913 |
| Issuance of Legacy Shapeways common stock upon exercise of warrants | 212,234 | — | — | — | — | — |
| Issuance of Legacy Shapeways convertible Series D preferred stock upon exercise of warrants | 89,217 | — | — | — | — | — |
| Repurchase of Legacy Shapeways common stock | (19,226) | — | (152) | — | — | (152) |
| Effect of Merger and recapitalization, net of redemptions and issuance costs | 5,691,648 | 1 | 10,035 | — | — | 10,036 |
| Issuance of common stock pursuant to PIPE financing, net of issuance costs | 7,500,000 | 1 | 64,936 | — | — | 64,937 |
| Issuance of common stock resulting from exercise of stock options | 86,533 | — | 43 | — | — | 43 |
| Issuance of common stock for settlement of restricted stock units | 410,000 | — | 1,558 | — | — | 1,558 |
| Tax payments related to shares withheld for vested restricted stock units | (165,278) | — | (594) | — | — | (594) |
| Stock-based compensation expense | — | — | 1,349 | — | — | 1,349 |
| Transfer of Private Warrants to Public Warrants | — | — | 1,485 | — | — | 1,485 |
| Net income | — | | — | 1,756 | — | 1,756 |
| Foreign currency translation | — | — | — | — | (92) | (92) |
| **Balance at December 31, 2021** | 48,627,739 | 5 | 198,179 | (112,811) | (369) | 85,004 |
| Issuance of common stock for stock-based compensation | 819,166 | — | 339 | — | — | 339 |
| Cancellation of restricted stock | (1,731) | — | — | — | — | — |
| Stock-based compensation expense | — | — | 2,155 | — | — | 2,155 |
| Transfer of Private Warrants to Public Warrants | — | — | 689 | — | — | 689 |
| Net loss | — | — | — | (20,221) | — | (20,221) |
| Foreign currency translation | — | — | — | — | (175) | (175) |
| **Balance at December 31, 2022** | 49,445,174 | $ 5 | $ 201,362 | $ (133,032) | $ (544) | $ 67,791 |

The accompanying notes are an integral part of these audited consolidated financial statements.

**SHAPEWAYS HOLDINGS, INC.**
**CONSOLIDATED STATEMENTS OF CASH FLOWS**
*(in thousands, except share and per share amounts)*

| | Year Ended December 31, 2022 | 2021 |
|---|---|---|
| **Cash flows from operating activities:** | | |
| Net (loss) income | $ (20,221) | $ 1,756 |
| Adjustments to reconcile net (loss) income to net cash used in operating activities: | | |
| Depreciation and amortization | 1,514 | 593 |
| Loss on disposal of property and equipment | 49 | — |
| Stock-based compensation expense | 2,155 | 2,907 |
| Non-cash lease expense | 1,000 | 763 |
| Non-cash debt forgiveness | — | (2,000) |
| Deferred income taxes | 27 | — |
| Change in fair value of earnout liability | (1,824) | — |
| Change in fair value of warrant liabilities | (1,584) | (8,106) |
| Interest receivable on short-term investments | (105) | — |
| Change in operating assets and liabilities: | | |
| Accounts receivable | 873 | (1,180) |
| Inventory | (192) | (175) |
| Prepaid expenses and other assets | (1,686) | (2,355) |
| Accounts payable | 1 | 207 |
| Accrued expenses and other liabilities | 996 | 223 |
| Operating lease liabilities | (1,049) | (854) |
| Deferred revenue | (522) | 162 |
| Security deposits | (7) | — |
| Net cash used in operating activities | (20,575) | (8,059) |
| **Cash flows from investing activities:** | | |
| Purchases of property and equipment | (10,118) | (3,960) |
| Purchase of short-term investments | (9,780) | — |
| Net cash paid for acquisitions, net of cash acquired | (8,861) | — |
| Net cash used in investing activities | (28,759) | (3,960) |
| **Cash flows from financing activities:** | | |
| Proceeds from issuance of common stock | 339 | 595 |
| Proceeds received from exercise of preferred stock warrants | — | 60 |
| Tax payments related to shares withheld for vested restricted stock units | — | (594) |
| Effect of Merger, net of transaction costs | — | 86,792 |
| Repayments of loans payable | — | (3,586) |
| Net cash provided by financing activities | 339 | 83,267 |
| Net change in cash and cash equivalents and restricted cash | $ (48,995) | $ 71,248 |
| Effect of change in foreign currency exchange rates on cash and cash equivalents and restricted cash | (55) | (138) |
| Cash and cash equivalents and restricted cash at beginning of year | 79,819 | 8,709 |
| Cash and cash equivalents and restricted cash at end of year | $ 30,769 | $ 79,819 |
| **Supplemental disclosure of cash and non-cash transactions:** | | |
| Cash paid for interest | $ — | $ 85 |
| Purchase of property and equipment included in accounts payable | $ 225 | $ — |
| Issuance of Legacy Shapeways common stock upon conversion of convertible notes | $ — | $ 5,913 |
| Repurchase of Legacy Shapeways common stock | $ — | $ (152) |

The accompanying notes are an integral part of these audited consolidated financial statements.

**Note 1. Organization**

On September 29, 2021 (the "Closing" or the "Closing Date"), Galileo Acquisition Corp., a Cayman Islands exempted company ("Galileo" and after the Domestication (as defined below) "Shapeways"), a publicly-traded special purpose acquisition company, consummated the transactions described in the Agreement and Plan of Merger and Reorganization (the "Merger Agreement") dated April 28, 2021, by and among Galileo Founders Holdings, L.P. (the "Sponsor"), Galileo Acquisition Corp., Galileo Acquisition Holdings, Inc., a Delaware corporation and wholly-owned subsidiary of Galileo ("Merger Sub"), and Shapeways, Inc., a Delaware corporation ("Legacy Shapeways"), whereby Merger Sub merged with and into Legacy Shapeways, the separate corporate existence of Merger Sub ceasing and Legacy Shapeways being the surviving corporation and a wholly owned subsidiary of Shapeways (the "Merger").

Further, on the Closing Date, Galileo was domesticated and continued as a Delaware corporation (the "Domestication" and, together with the Merger, the "Business Combination"), changing its name to "Shapeways Holdings, Inc." (the "Company" and/or "Shapeways"). Simultaneously with the execution of the Business Combination, Galileo entered into subscription agreements pursuant to which certain investors agreed to purchase an aggregate of 7,500,000 shares of common stock for a purchase price of $10.00 per share and $75,000,000 in the aggregate (the "PIPE Investment"). At the Closing, the Company consummated the PIPE Investment. Shapeways also operates through its wholly owned subsidiaries, Shapeways BV, which was incorporated in the Netherlands on December 10, 2008 and Linear Mold & Engineering, LLC, also referred to as Linear AMS ("Linear"), which was acquired in May 2022.

Shapeways is a leader in the large and fast-growing digital manufacturing industry combining high quality, flexible on-demand manufacturing powered by purpose-built proprietary software which enables customers to rapidly transform digital designs into physical products, globally. Shapeways makes industrial-grade additive manufacturing accessible by fully digitizing the end-to-end manufacturing process, and by providing a broad range of solutions utilizing 12 additive manufacturing technologies and more than 120 materials and finishes, with the ability to easily scale new innovation. Shapeways has delivered over24 million parts to over 1 million customers in over 180 countries, from inception through December 31, 2022.

**Note 2. Summary of Significant Accounting Policies**

***Basis of Presentation and Principles of Consolidation***

The accompanying consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States ("U.S. GAAP") as defined by the Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC"). The consolidated financial statements include the accounts of its wholly owned subsidiaries, Legacy Shapeways, Shapeways BV and Linear. All intercompany accounts and transactions have been eliminated in consolidation. In the opinion of management, the accompanying consolidated financial statements include all adjustments, consisting of a normal recurring nature, which are necessary for a fair presentation of the financial position, operating results and cash flows for the periods presented.

***Use of Estimates***

The preparation of the Company's consolidated financial statements, in conformity with U.S. GAAP, requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and reported amounts of revenues and expenses during the reporting periods. Actual results may differ from those estimates.

***Functional Currency***

The Euro is the functional currency for Shapeways BV's operations outside the United States. Assets and liabilities of these operations are translated into U.S. Dollars at the exchange rate in effect at the end of each period. Income statement accounts are translated at the average exchange rate prevailing during the period. Translation adjustments arising from the use of differing exchange rates from period to period are included as a component of other comprehensive loss within stockholders' equity (deficit). Gains and losses from foreign currency transactions are included in net loss for the period.

*(in thousands, except share and per share amounts)*

***Cash, Cash Equivalents and Restricted Cash***

Cash includes cash on hand, demand deposits and highly liquid securities with original maturities at the date of acquisition of ninety days or less. The Company maintains its deposits at high quality financial institutions and monitors the credit ratings of those institutions. The Company considers all highly liquid investments with original maturities of three months or less to be cash equivalents. While cash held by financial institutions may at times exceed federally insured limits, the Company believes that no material credit or market risk exposure exists due to the high quality of the institution. Restricted cash represents cash required to be held as collateral for the Company's credit cards and security deposit for its facility in the Netherlands. Accordingly, these balances contain restrictions as to their availability and usage and are classified as restricted cash in the consolidated balance sheets.

The reconciliation of cash, cash equivalents and restricted cash reported within the applicable consolidated balance sheets that sum to the total of the same such amount shown in the consolidated statements of cash flows is as follows:

| | December 31, | |
|---|---|---|
| | 2022 | 2021 |
| Cash and cash equivalents | $ 30,630 | $ 79,677 |
| Restricted cash | 139 | 142 |
| | $ 30,769 | $ 79,819 |

***Short-term Investments***

The Company invests its excess cash in fixed income instruments including U.S. treasury securities with a maturity of six months or less. The Company has the means and intends to hold all investments to maturity, and as such are classified as held-to-maturity investments. Held-to-maturity investments are recorded at amortized cost and adjusted for the amortization or accretion of premiums or discounts.

***Accounts Receivable***

Accounts receivable are recorded at the invoiced amount and are generally unsecured as they are uncollateralized. The Company provides an allowance for doubtful accounts to reduce receivables to their estimated net realizable value. Judgement is exercised in establishing allowances and estimates are based on the customers' payment history and liquidity. Any amounts that were previously recognized as revenue and subsequently determined to be uncollectible are charged to bad debt expense included in selling, general and administrative expense in the accompanying consolidated statements of operations and comprehensive loss. Given the nature and historical collectability of the Company's accounts receivable, an allowance for doubtful accounts was not deemed necessary at December 31, 2022 and 2021.

***Inventory***

Inventory consists of raw materials, work in progress and finished goods at the Company's distribution centers. Raw materials are stated at the lower of cost or net realizable value, determined by the first-in-first-out method. Finished goods and work in progress are valued using a methodology to determine the cost of each 3D printed object using allocations for material, labor, machine time and overhead. The Company periodically reviews its inventory for slow-moving, damaged and discontinued items and provides allowances to reduce such items identified to their recoverable amounts. As of December 31, 2022 and 2021, the Company determined an allowance was not deemed necessary.

*(in thousands, except share and per share amounts)*

***Property and Equipment, net***

Property and equipment are stated at cost, less accumulated depreciation. Maintenance and repairs are charged to expense when incurred. Additions and improvements that extend the economic useful life of the asset are capitalized and depreciated over the remaining useful lives of the assets. The cost and accumulated depreciation of assets sold or retired are removed from the respective accounts, and any resulting gain or loss is reflected in current earnings. No impairment charges were recorded for the years ended December 31, 2022 and 2021. Costs for capital assets not yet placed into service are capitalized and depreciated once placed into service. Depreciation is recognized using the straight-line method in amounts considered to be sufficient to allocate the cost of the assets to operations over the estimated useful lives or lease terms, as follows:

| Asset Category | Depreciable Life |
|---|---|
| Machinery and equipment | 5 to 10 years |
| Computers and IT equipment | 3 to 10 years |
| Furniture and fixtures | 7 to 10 years |
| Vehicles | 10 years |
| Leasehold improvements | ** |

** Leasehold improvements are amortized using the straight-line method over the shorter of the lease term or estimated useful life of the asset.

***Long-Lived Assets, Including Definite-Lived Intangible Assets***

Intangible assets, which consist of technology, customer relationships, trademarks, favorable and unfavorable operating leases, and non-competition agreements are stated at cost less accumulated amortization. Amortization is generally recorded on a straight-line basis over estimated useful lives ranging from two to ten years. The Company periodically reviews the estimated useful lives of intangible assets and adjusts when events indicate that a shorter life is appropriate. In accordance with authoritative accounting guidance, capitalization of costs to develop software begins when preliminary development efforts are successful and completed. Costs related to the design or maintenance of internal-use software are expensed as incurred.

Long-lived assets, other than goodwill and other indefinite-lived intangibles, are evaluated for impairment whenever events or changes in circumstances indicate that the carrying amount of the assets may not be recoverable through the estimated undiscounted future cash flows derived from such assets.

Factors that the Company considers in deciding when to perform an impairment review include significant changes in the Company's forecasted projections for the asset or asset group for reasons including, but not limited to, significant underperformance of a product in relation to expectations, significant changes, or planned changes in the Company's use of the assets, significant negative industry or economic trends, and new or competing products that enter the marketplace. The impairment test is based on a comparison of the undiscounted cash flows expected to be generated from the use of the asset group. If impairment is indicated, the asset is written down by the amount by which the carrying value of the asset exceeds the related fair value of the asset with the related impairment charge recognized within the statements of operations and comprehensive loss. No impairment charges were recorded for the years ended December 31, 2022 and 2021.

***Goodwill***

Goodwill, which represents the excess of purchase prices over the fair value of net assets acquired, is carried at cost. Goodwill is not amortized; rather, it is subject to a periodic assessment for impairment by applying a fair value-based test. Goodwill is evaluated for impairment on an annual basis at a level of reporting referred to as the reporting unit, and more frequently if adverse events or changes in circumstances indicate that the asset may be impaired.

Under ASC 350, *Intangibles - Goodwill and Other*, the Company has the option to first assess the qualitative factors to determine whether it is more likely than not that the fair value of the reporting unit is less than its carrying amount as a basis for determining whether it is necessary to perform a quantitative goodwill impairment test. If the Company determines that it is more likely than not that the fair value of a reporting unit is less than its carrying amount, then the goodwill impairment test is performed. Impairment tests are performed on a quarterly basis. Management uses the future discounted cash flows valuation approach to determine the fair value of reporting units and determines whether the fair value of reporting units exceeded its carrying amounts. If the fair value exceeds the carrying amount, then no impairment is recognized. If the carrying amount recorded exceeds the fair value calculated, then an impairment charge is recognized for the difference. The impairment review requires management to make judgments in determining various assumptions with respect to revenues, operating margins, growth rates and discount rates. The judgments made in determining the projected cash flows used to estimate the fair value can materially impact the Company’s financial condition and results of operations.

***Fair Value Measurements***

The Company applies ASC 820, *Fair Value Measurement* (“ASC 820”), which establishes a framework for measuring fair value and clarifies the definition of fair value within that framework. ASC 820 defines fair value as an exit price, which is the price that would be received for an asset or paid to transfer a liability in the Company’s principal or most advantageous market in an orderly transaction between market participants on the measurement date. The fair value hierarchy established in ASC 820 generally requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. Observable inputs reflect the assumptions that market participants would use in pricing the asset or liability and are developed based on market data obtained from sources independent of the reporting entity. Unobservable inputs reflect the entity’s own assumptions based on market data and the entity’s judgments about the assumptions that market participants would use in pricing the asset or liability and are to be developed based on the best information available in the circumstances.

The valuation hierarchy is composed of three levels. The classification within the valuation hierarchy is based on the lowest level of input that is significant to the fair value measurement. The levels within the valuation hierarchy are described below:

Level 1 **-** Assets and liabilities with unadjusted, quoted prices listed on active market exchanges. Inputs to the fair value measurement are observable inputs, such as quoted prices in active markets for identical assets or liabilities.

Level 2 **-** Inputs to the fair value measurement are determined using prices for recently traded assets and liabilities with similar underlying terms, as well as direct or indirect observable inputs, such as interest rates and yield curves that are observable at commonly quoted intervals.

Level 3 **-** Inputs to the fair value measurement are unobservable inputs, such as estimates, assumptions, and valuation techniques when little or no market data exists for the assets or liabilities.

***Business Acquisitions***

The purchase price of an acquisition is allocated to the assets acquired, including intangible assets, and liabilities assumed, based on their respective fair values at the acquisition date. Acquisition-related costs are expensed as incurred. The excess of the cost of an acquired entity, net of the amounts assigned to the assets acquired and liabilities assumed, is recognized as goodwill. The net assets and results of operations of an acquired entity are included on the Company’s consolidated financial statements from the acquisition date (see Note 4).

***Revenue Recognition***

Revenue is derived from two primary sources: (a) products and services and (b) software.

The Company recognizes revenue following the five-step model prescribed under ASC 606, *Revenue from Contracts with Customers ("ASC 606")*: (i) identify contract(s) with a customer; (ii) identify the performance obligation(s) in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligation(s) in the contract; and (v) recognize revenue when (or as) the Company satisfies a performance obligation. The Company only applies the five-step model to contracts when it is probable that the Company will collect the consideration it is entitled to in exchange for the products or services it transfers to the customer. These contracts have different terms based on the scope, performance obligations, and complexity of the project, which often requires the Company to make judgments and estimates in recognizing revenues.

Performance obligations are satisfied both at a point of time and over time. All revenue is recognized based on the satisfaction of the performance obligation to date (see Note 5).

***Leases***

The Company's lease arrangements relate primarily to office and manufacturing space and equipment. The Company's leases generally have initial terms ranging from 4 to 10 years and may include renewal options and rent escalation clauses. The Company is typically required to make fixed minimum rent payments relating to its right to use an underlying leased asset. Additionally, the Company's leases do not contain significantly restrictive covenants or residual value guarantees.

The Company determines if an arrangement is a lease at inception and classifies its leases at commencement. Operating leases are presented as right-of-use ("ROU") assets and the corresponding lease liabilities are included in operating lease liabilities, current and operating lease liabilities on the Company's consolidated balance sheets. The Company does not currently maintain any finance lease arrangements. ROU assets represent the Company's right to use an underlying asset and lease liabilities represent the Company's obligation for lease payments in exchange for the ability to use the asset for the duration of the lease term. The Company does not recognize short term leases that have a term of twelve months or less as ROU assets or lease liabilities. The Company's short-term leases are not material and do not have a material impact on its ROU assets or lease liabilities.

ROU assets and lease liabilities are recognized at commencement date and determined using the present value of the future minimum lease payments over the lease term. The Company uses an incremental borrowing rate based on estimated rate of interest for collateralized borrowing since the Company's leases do not include an implicit interest rate. The estimated incremental borrowing rate considers market data, actual lease economic environment, and actual lease term at commencement date. The lease term may include options to extend when it is reasonably certain that the Company will exercise that option. ROU assets include lease payments made in advance, and excludes any incentives received or initial direct costs incurred. The Company recognizes lease expense on a straight-line basis over the lease term.

The Company has lease agreements which contain both lease and non-lease components, which it has elected to account for as a single lease component. As such, minimum lease payments include fixed payments for non-lease components within a lease agreement, but exclude variable lease payments not dependent on an index or rate, such as common area maintenance, operating expenses, utilities, or other costs that are subject to fluctuation from period to period.

***Stock-based Compensation***

The Company recognizes stock-based compensation expense for all stock options, restricted stock units and other arrangements within the scope of ASC 718, *Stock Compensation ("ASC 718")*. Stock-based compensation expense is measured at the date of grant, based on the fair value of the award, and is recognized using the straight-line method over the employee's requisite service period. Compensation for stock-based awards with vesting conditions other than service are recognized based on the probability of the performance condition being met over the vesting period. Forfeitures are recognized as they are incurred.

***Public and Private Common Stock Warrant Liabilities***

As part of Galileo's initial public offering, Galileo issued to third party investors 13,800,000 units, consisting of one ordinary share of Galileo and one warrant, at a price of $10.00 per unit. Each whole warrant entitles the holder to purchase one share of common stock at an exercise price of $11.50 per share (the "Public Warrants"). Simultaneously with the closing of Galileo's initial public offering, Galileo completed the private sale of 4,110,000 warrants to Galileo's sponsor and EarlyBirdCapital, Inc. at a purchase price of $1.00 per warrant (the "Private Warrants"). In connection with the Business Combination, Galileo's sponsor exercised its right to convert the aggregate outstanding principal amount of the convertible promissory note issued by Galileo into an aggregate of 500,000 warrants (the "Sponsor Warrants"), with terms equivalent to the Private Warrants.

The Private Warrants were originally identical to the Public Warrants, except that the Private Warrants (i) will not be redeemable by the Company and (ii) may be exercised for cash or on a cashless basis, so long as they are held by the initial purchaser or any of its permitted transferees. If the Private Warrants are held by holders other than the initial purchasers or any of their permitted transferees, the Private Warrants will be redeemable by the Company and exercisable by the holders on the same basis as the Public Warrants.

The Company evaluated the Public and Private Warrants under ASC 815-40, *Derivatives and Hedging—Contracts in Entity's Own Equity* ("ASC 815-40"), and concluded that the Private Warrants do not meet the criteria to be classified in stockholders' equity. Since the Private Warrants meet the definition of a derivative under ASC 815, the Company recorded these warrants as liabilities on the consolidated balance sheets at fair value, with subsequent changes in their respective fair values recognized in the consolidated statement of operations and comprehensive loss at each reporting date.

In December 2022, the Company and the holders of the Private Warrants entered into letter agreements, pursuant to which such holders agreed that the Private Warrants will be exercisable for cash or on a cashless basis and redeemable on the same terms and subject to the same conditions as the Public Warrants. See Note 12.

***Research and Development Costs***

Research and development expenses consist primarily of employee-related personnel expenses, fees paid to consultants and outside service providers, software and subscription services and allocations for rent and overhead. Research and development costs were $10,409 and $6,281 for the years ended December 31, 2022 and 2021, respectively.

***Advertising***

Advertising costs are expensed as incurred. Advertising costs were $2,046 and $1,887 for the years ended December 31, 2022 and 2021, respectively, which are included in selling, general and administrative expense on the Company's consolidated statements of operations and comprehensive loss.

***Income Taxes***

The Company files income tax returns in the U.S. federal jurisdiction and various state jurisdictions. Income taxes are accounted for under the asset and liability method. Deferred tax assets and liabilities are recognized for the estimated future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates in effect for the year in which those temporary differences are expected to be recovered or settled. Where applicable, the Company records a valuation allowance to reduce any deferred tax assets that it determines will not be realizable in the future.

The Company recognizes the benefit of an uncertain tax position that it has taken or expects to take on income tax returns it files if such tax position is more likely than not to be sustained on examination by the taxing authorities, based on the technical merits of the position. These tax benefits are measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate resolution. Although the Company believes that it has adequately reserved for uncertain tax positions (including interest and penalties), it can provide no assurance that the final tax outcome of these matters will not be materially different. The Company makes adjustments to these reserves in accordance with the income tax accounting guidance when facts and circumstances change, such as the closing of a tax audit or the refinement of an estimate. To the extent that the final tax outcome of these matters is different than the amounts recorded, such differences will affect the provision for income taxes in the period in which such determination is made, and could have a material impact on the Company's financial condition and operating results. Carryforward attributes that were generated in tax years prior to those that remain open for examination may still be adjusted by relevant tax authorities upon examination if they either have been, or will be, used in a future period.

**SHAPEWAYS HOLDINGS, INC.**
**NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS**
*(in thousands, except share and per share amounts)*

***(Loss) Income per Share***

In accordance with the provisions of ASC 260, *Earnings Per Share*, net (loss) income per common share is computed by dividing net (loss) income by the weighted-average shares of common stock outstanding during the period. Basic (loss) income per share is computed by dividing net (loss) income attributable to common stockholders by the weighted average number of shares outstanding during the period. Diluted net (loss) income per share gives effect to all dilutive potential common shares outstanding during the period including stock options and warrants, using the treasury stock method, and convertible debt and convertible securities, using the if-converted method. During a loss period, the effect of the potential exercise of stock options and convertible debt are not considered in the diluted net (loss) income per share calculation since the effect would be anti-dilutive. A reconciliation of net (loss) income and net loss attributable to common stockholders and number of shares used in computing basic and diluted net (loss) income and net loss attributable to common stockholders per share is as follows:

| | Year Ended December 31, | |
|---|---|---|
| | 2022 | 2021 |
| Basic and Diluted net (loss) income per share computation: | | |
| Numerator for basic and diluted net loss per share: | | |
| Net (loss) income | $ (20,221) | $ 1,756 |
| Net loss attributable to common stockholders | $ (20,221) | $ (16,376) |
| Denominator for basic and diluted net loss per share: | | |
| Weighted average common shares - basic and diluted | 52,998,563 | 41,040,637 |
| Basic and diluted net (loss) income per share | $ (0.38) | $ 0.04 |
| Basic and diluted net loss per share attributable to common stockholders | $ (0.38) | $ (0.40) |

The following table presents the outstanding shares of common stock equivalents that were excluded from the computation of the diluted net (loss) income per share attributable to common stock for the periods in which a net (loss) income is presented because their effect would have been anti-dilutive:

| | Year Ended December 31, | |
|---|---|---|
| | 2022 | 2021 |
| Potentially dilutive securities: | | |
| Common stock warrants | 18,410,000 | 18,410,000 |
| Earnout Shares | 3,510,405 | 3,510,405 |
| Unvested RSUs | 7,225,194 | 660,448 |

Included in loss per common share are3,885,059 and 4,515,739 shares of options due to their nominal exercise prices as of December 31, 2022 and 2021, respectively.

***Segment Information***

The Company reports in one segment, which focuses on providing additive manufacturing services to customers. The Company’s reportable segment is reported in a manner consistent with the internal reporting provided to the chief operating decision maker (“CODM”). The Company’s CODM has been identified as its Chief Executive Officer.

***Recent Accounting Pronouncements***

From time to time, new accounting pronouncements are issued by the FASB or other standard setting bodies that are adopted by the Company as of the specified effective date. The Company has evaluated recently issued accounting pronouncements and does not believe any will have a material impact on the Company’s consolidated financial statements or related financial statement disclosures.

*(in thousands, except share and per share amounts)*

*Accounting Pronouncements Recently Adopted*

In October 2021, the FASB issued Accounting Standards Update ("ASU") 2021-08,*Business Combinations (Topic 805): Accounting for Contract Assets and Contract Liabilities from Contracts with Customers.* This update requires that an acquirer recognize and measure contract assets and contract liabilities acquired in a business combination in accordance with Topic 606, *Revenue from Contracts with Customers.* This standard is effective for fiscal years and interim periods with those fiscal years beginning after December 15, 2022, and should be applied prospectively to business combinations occurring on or after the effective date of the standard. Early adoption is permitted, including adoption in an interim period. The Company early adopted this guidance on April 22, 2022, and has applied the guidance to business combinations entered into during fiscal 2022.

*Accounting Pronouncements Not Yet Adopted*

In June 2016, the FASB issued ASU 2016-13,*Accounting for Credit Losses (Topic 326)*, which requires the use of an "expected loss" model on certain types of financial instruments. The standard also amends the impairment model for available-for-sale debt securities and requires estimated credit losses to be recorded as allowances instead of reductions to amortized cost of the securities. ASU 2016-13 is effective for annual periods beginning after December 15, 2022, including interim periods within those annual periods. Early adoption is permitted, including adoption in an interim period. The Company is currently evaluating the impact the standard will have on its consolidated financial statements.

**Note 3. Short-term Investments**

As of December 31, 2022, the Company's investment in short-term investments consisted of U.S. Treasury Securities classified as held-to-maturity. Held-to-maturity investments are recorded at amortized cost and adjusted for the amortization or accretion of premiums or discounts. The Company considers all investments with original maturities of 3 months or less to be cash and cash equivalents and investments with original maturities of more than three months but less than one year to be short-term investments. The carrying value, excluding gross unrealized holding gains or losses and fair value as of December 31, 2022 were as follows:

| | Amortized Cost and Carrying Value | Gross Unrealized Gains | Gross Unrealized Losses | Fair Value December 31, 2022 |
|---|---|---|---|---|
| **Classified as Cash and cash equivalents** | | | | |
| U.S. Treasury Securities | $ 19,864 | $ 73 | $ — | $ 19,937 |
| | | | | |
| **Classified as short-term investments** | | | | |
| U.S. Treasury Securities | $ 9,816 | $ 33 | $ — | $ 9,849 |

**Note 4. Business Acquisitions**

During April and May 2022, the Company completed three insignificant strategic acquisitions of MP2020, Inc., also referred to as MFG.com ("MFG"), Linear, and MakerOS, Inc. ("MakerOS"), collectively the "2022 acquisitions."

The following table summarizes the total consideration for the 2022 acquisitions:

| | Consideration |
|---|---|
| Cash consideration | $ 8,890 |
| Holdback consideration | 1,100 |
| Earnout consideration | 2,900 |
| Total consideration | $ 12,890 |

The holdback consideration represents the portion of the purchase price to be paid within 12 months from the respective closing dates, subject to reduction for certain indemnifications and other potential obligations of the acquired businesses.

The fair value of the earnout consideration liability for the Linear acquisition was determined using a Monte Carlo simulation based on revenue performance for the 12 months ending December 31, 2022. The estimated fair value at acquisition was $2,900 and is included in accrued expenses and other liabilities within the consolidated balance sheet. As of December 31, 2022 the estimated fair value of the earnout consideration was $1,076. The earnout will be payable in cash and equity in April 2023. There is no earnout consideration for the MFG or MakerOS acquisitions.

The Company has accounted for the MFG and Linear acquisitions as a business combination in accordance with ASC Topic 805*Business Combinations* ("ASC 805"), and the acquisition of Maker OS as an asset purchase. The net assets acquired in the acquisitions was $12,890 which includes $5,903 of net intangible assets and $4,451 of goodwill. The Company has allocated the purchase price based on preliminary estimates of fair value for the assets acquired and liabilities assumed using information currently available. Adjustments, if any, to the preliminary allocation are not expected to be material.

The Company has determined that the impact of these acquisitions was not material to its consolidated financial statements; therefore, separate presentation of revenue and earnings since the acquisition date and pro forma information are not required nor included herein.

**Note 5. Revenue Recognition**

Under ASC 606, revenue is recognized throughout the life of the executed agreement. The Company measures revenue based on consideration specified in a contract with a customer. Furthermore, the Company recognizes revenue when a performance obligation is satisfied by transferring control of the product or service to the customer which could occur over time or at a point in time.

A performance obligation is a promise in a contract to transfer a distinct service to the customer. The transaction price of a contract is allocated to each distinct performance obligation and recognized as revenue when or as the customer receives the benefit of the performance obligation. Customers typically receive the benefit of the Company's services as (or when) they are performed. Substantially all customer contracts provide that compensation is received for services performed to date. Taxes assessed by a governmental authority that are both imposed on and concurrent with a specific revenue-producing transaction, that are collected by the Company from a customer, are excluded from revenue.

***Nature of Products and Services***

The following is a description of the Company's products and services from which the Company generates revenue, as well as the nature, timing of satisfaction of performance obligations, and significant payment terms for each:

*Direct sales*

The Company provides customers with an additive manufacturing service, allowing for the customer to select the specifications of the model which they wish to have printed. Shapeways prints the 3D model and ships the product directly to the customer.

The Company recognizes the sale of shop owner products through their e-commerce website over time using the output method. Contracts involving the sale of shop owner products through their e-commerce website do not include other performance obligations. As such, allocation of the transaction price was not necessary as the entire contract price is attributed to the sole performance obligation identified.

*Marketplace sales*

The Company provides a platform for shop owners to sell their products to customers through Shapeways' marketplace website. Shapeways receives a3.5% markup fee from the shop owner upon the sale of any products through the marketplace.

The Company handles the financial transaction, manufacturing, distribution and customer service on behalf of the shop owners. The Company is responsible for billing the customer in this arrangement and transmitting the applicable fees to the shop owner. The Company assessed whether it is responsible for providing the actual product or service as a principal, or for arranging for the product or service to be provided by the third party as an agent. Judgment is applied to determine whether the Company is the principal or the agent by evaluating whether it has control of the product or service prior to it being transferred to the customer. The principal versus agent assessment is performed at the performance obligation level. Indicators that the Company has considered include whether it has the primary responsibility for fulfilling the promise to provide the specified product or service to the customer and whether it has inventory risk prior to transferring the product or service to the customer. The Company has the responsibility to fulfill the promise to provide the specific good or service on behalf of the shop owners to the customer. In addition, the Company has inventory risk before the specific good or service is transferred to a customer. As such, the Company is deemed the principal and shall recognize revenue on a gross basis for the price it charges to the shop owner for each product or service.

*(in thousands, except share and per share amounts)*

The Company recognizes the sale of 3D printed products to customers at a point in time, specifically upon shipping the goods to the customer (FOB Origin) given the transfer of significant risks and rewards of ownership at that point in time. Contracts involving the manufacturing and delivery of 3D printed products to customers do not include other performance obligations. As such, allocation of the transaction price is not necessary as the entire contract price is attributed to the sole performance obligation identified.

*Software revenue*

The Company launched the first phase of its software offering under the brand "OTTO" in the fourth quarter of 2021. The software enables other manufacturers to leverage Shapeways' existing end-to-end manufacturing software to scale their businesses and shift to digital manufacturing. Shapeways' software offers improved customer accessibility, increased productivity, and expanded manufacturing capabilities for its customers. The Company expanded its software offering's customer base and feature set with the acquisition of MFG and MakerOS, both completed in April 2022. Software revenue for the year ended December 31, 2022 reflects the April 2022 acquisition of MFG.

For each of the performance obligations classified as software revenue, the performance obligations are satisfied evenly over the term of the contract. For contracts including performance obligations classified as software revenue, the Company identified that each performance obligation has an explicitly stated standalone selling price. As such, allocation is not necessary as the prices included in the contract are attributed to each separate performance obligation.

The following table presents our revenues disaggregated by revenue discipline:

| | Year Ended December 31, | |
|---|---|---|
| | 2022 | 2021 |
| **Major products and service lines:** | | |
| Direct sales | $ 25,429 | $ 25,554 |
| Marketplace sales | 5,932 | 7,772 |
| Software | 1,796 | 297 |
| **Total revenue** | $ 33,157 | $ 33,623 |
| **Timing of revenue recognition:** | | |
| Products transferred at a point in time | $ 5,932 | $ 7,772 |
| Products and services transferred over time | 27,225 | 25,851 |
| **Total revenue** | $ 33,157 | $ 33,623 |

*(in thousands, except share and per share amounts)*

***Deferred Revenue***

The Company records deferred revenue when cash payments are received in advance of performance.Deferred revenue activity for the years ended December 31, 2022 and 2021 was as follows:

| | December 31, | |
|---|---|---|
| | 2022 | 2021 |
| Balance at beginning of year | $ 921 | $ 753 |
| Deferred revenue recognized during year | (33,157) | (33,623) |
| Additions to deferred revenue during year | 33,208 | 33,791 |
| Total deferred revenue | $ 972 | $ 921 |

The Company expects to satisfy its remaining performance obligations within the next twelve months. The $921 of deferred revenue as of January 1, 2022 was recognized during the year ended December 31, 2022. The opening balance of accounts receivable as of January 1, 2021 was $185.

***Practical Expedients and Exemptions***

The Company applies the practical expedient related to incremental costs of obtaining a contract. Although certain of its commission costs qualify for capitalization under ASC 340-40, *Contracts with Customers*, their amortization period is less than one year. Therefore, utilizing the practical expedient, the Company expenses these costs as incurred.

**Note 6. Inventory**

Components of inventory consisted of the following:

| | December 31, | |
|---|---|---|
| | 2022 | 2021 |
| Raw materials | $ 849 | $ 735 |
| Work-in-process | 209 | 28 |
| Finished goods | 249 | 164 |
| Total | $ 1,307 | $ 927 |

**Note 7. Prepaid Expenses and Other Current Assets**

Prepaid expenses and other current assets consisted of the following:

| | December 31, | |
|---|---|---|
| | 2022 | 2021 |
| Prepaid operating expenses | $ 3,231 | $ 396 |
| Prepaid insurance | 401 | 2,338 |
| Prepaid expenses | 1,384 | 680 |
| Security deposits | 175 | — |
| VAT receivable | 990 | 945 |
| Other current assets | 74 | 1 |
| Total | $ 6,255 | $ 4,360 |

*(in thousands, except share and per share amounts)*

**Note 8. Property and Equipment, net**

Property and equipment consisted of the following:

| | December 31, 2022 | December 31, 2021 |
|---|---|---|
| Machinery and equipment | $ 10,450 | $ 6,996 |
| Computers and IT equipment | 1,138 | 957 |
| Furniture and fixtures | 81 | 49 |
| Leasehold improvements | 2,429 | 2,482 |
| Vehicles | 42 | — |
| Assets to be placed in service | 11,749 | 2,442 |
| Property and equipment | 25,889 | 12,926 |
| Less: Accumulated depreciation | (10,262) | (8,538) |
| Property and equipment, net | $ 15,627 | $ 4,388 |

For the years ended December 31, 2022 and 2021, depreciation expense totaled $1,009 and $593, respectively. Of these amounts, depreciation charged to cost of revenue was $866 and $460 for the years ended December 31, 2022 and 2021, respectively.

**Note 9. Goodwill and Intangible Assets**

Changes in the carrying amount of goodwill as of December 31, 2022 and December 31, 2021 are as follows:

| | Goodwill |
|---|---|
| Balance at December 31, 2021 | $ 1,835 |
| Acquired goodwill | 4,451 |
| Balance at December 31, 2022 | $ 6,286 |

The Company has no accumulated impairment losses on goodwill during the years ended December 31, 2022 and 2021.

Intangible assets consisted of the following as of December 31, 2022:

| | Gross carrying amount | Accumulated amortization | Intangible assets, net | Weighted average amortization period (in years) |
|---|---|---|---|---|
| Customer relationships | $ 3,086 | $ (206) | $ 2,880 | 10 |
| Trade name | 987 | (66) | 921 | 10 |
| Acquired software platform | 910 | (61) | 849 | 10 |
| Customer lists | 190 | (42) | 148 | 3 |
| Noncompetition agreement | 52 | (17) | 35 | 2 |
| Favorable operating lease | 699 | (117) | 582 | 4 |
| Unfavorable operating lease | (21) | 4 | (17) | 4 |
| Total | $ 5903 | $ (505) | $ 5398 | |

*(in thousands, except share and per share amounts)*

The Company recognized $505 of amortization expense during the year ended December 31, 2022. There wasno amortization expense recorded for the year ended December 31, 2021. The Company estimates the future aggregate amortization expense related to its intangible assets as of December 31, 2022 will be as follows:

| | Amortization expense |
|---|---|
| 2023 | $ 757 |
| 2024 | 740 |
| 2025 | 689 |
| 2026 | 555 |
| 2027 | 498 |
| Thereafter | 2,159 |
| Total | $ 5,398 |

**Note 10. Accrued Expenses and Other Liabilities**

Accrued expenses consisted of the following:

| | December 31, 2022 | December 31, 2021 |
|---|---|---|
| Accrued compensation | $ 1,504 | $ 814 |
| Earnout consideration | 1,076 | — |
| Holdback payable | 1,100 | — |
| Accrued selling expenses | 487 | 522 |
| Taxes payable | 339 | 328 |
| Accrued acquisition of property and equipment | 225 | — |
| Other | 1,219 | 981 |
| Total | $ 5,950 | $ 2,645 |

**Note 11. Commitments and Contingencies**

***Leases***

During the year ended December 31, 2022, the Company maintained five leases of facilities located in the United States and the Netherlands, as well as,one lease of office equipment, under operating leases. The Company previously leased a manufacturing facility in Long Island City, New York, which expired in January 2023. The Company did not renew its lease at the Long Island City facility, but now houses its production in the Livonia facility.

For the years ended December 31, 2022 and 2021, operating lease expense was $1,000 and $839, respectively. The Company also recorded sublease income of $255 during the year ended December 31, 2022 associated with the Company's sublease of its facility in Michigan. The company had no sublease income during the year ended December 31, 2021. The Company records sublease income within Other income on the consolidated statements of operations and comprehensive loss.

*(in thousands, except share and per share amounts)*

Right of use assets and lease liabilities for operating leases were recorded in the consolidated balance sheets as follows:

| | December 31, 2022 | December 31, 2021 |
|---|---|---|
| **Assets:** | | |
| Right-of-use assets, net | $ 2,365 | $ 842 |
| Total lease assets | $ 2,365 | $ 842 |
| **Liabilities:** | | |
| Current liabilities: | | |
| Operating lease liabilities, current | $ 719 | $ 639 |
| Non-current liabilities: | | |
| Operating lease liabilities, net of current portion | 1,715 | 326 |
| Total lease liability | $ 2,434 | $ 965 |

The Company’s lease agreements do not state an implicit borrowing rate; therefore, an internal incremental borrowing rate was determined based on information available at the lease commencement date for the purposes of determining the present value of lease payments. The incremental borrowing rate reflects the cost to borrow on a securitized basis in each market. The weighted-average remaining lease term for operating leases was 3.06 years and the weighted-average incremental borrowing rate was7.07% as of December 31, 2022.

Supplemental cash flow information related to the Company’s leases was as follows:

| | Years Ended December 31, 2022 | Years Ended December 31, 2021 |
|---|---|---|
| Operating cash flows from operating leases | $ 1,049 | $ 928 |
| Lease liabilities arising from obtaining right-of-use assets | $ 285 | $ — |

As of December 31, 2022, future minimum lease payments required under operating leases are as follows:

| | |
|---|---|
| 2023 | $ 872 |
| 2024 | 846 |
| 2025 | 782 |
| 2026 | 237 |
| Total minimum lease payments | 2,737 |
| Less effects of discounting | (303) |
| Present value of future minimum lease payments | $ 2,434 |

***Legal Proceedings***

The Company is involved in various legal proceedings which arise from time to time in the normal course of business. While the results of such matters generally cannot be predicted with certainty, management does not expect any such matters to have a material adverse effect on the Company’s consolidated financial position or results of operations as of and for the years ended December 31, 2022 and 2021.

**Note 12. Stockholders’ Equity**

The consolidated statements of changes in stockholders’ equity (deficit) reflects the Business Combination as of September 29, 2021 as defined in Note 1. As Legacy Shapeways was deemed the accounting acquirer in the Business Combination with Galileo, all periods prior to the Closing date reflect the balances and activity of Legacy Shapeways. The balances as of January 1, 2021 from the consolidated financial statements of Legacy Shapeways as of that date, share activity (convertible preferred stock, common stock, additional paid in capital, accumulated deficit, and accumulated other comprehensive loss) and per share amounts were retroactively adjusted, where applicable, using the recapitalization conversion ratio of 0.8293 (the "Conversion Ratio") established in the Merger.

***Common Stock***

Upon closing of the Business Combination, pursuant to the terms of the Certificate of Incorporation, the Company authorized 120,000,000 shares of Common Stock with a par value of $0.0001. The holders of Common Stock are entitled to one vote per share on all matters submitted to the stockholders for their vote or approval and are entitled to receive dividends, as and if declared by the Board of Directors out of legally available funds.

The Company has issued and outstanding 49,445,174 and 48,627,739 shares of Common Stock as of December 31, 2022 and 2021, respectively.

***Legacy Shapeways Common Stock Warrants***

On December 18, 2013, in connection with executing a loan agreement, the Company issued warrants to purchase 40,000 shares of Legacy Shapeways common stock. The warrants had an exercise price of $1.25 per share and had an expiration date of December 18, 2023.

On February 3, 2014, in connection with executing a lease agreement, the Company issued warrants to purchase 248,000 shares of Legacy Shapeways common stock. The warrants had an exercise price of $1.25 per share and expired upon the latest to occur (i) seven years from the original issuance date or (ii) five years from the effective date of an initial public offering.

On April 22, 2015, in connection to an amended loan agreement, the Company issued warrants to purchase 13,750 shares of Legacy Shapeways common stock. The warrants had an exercise price of $1.70 per share and had an expiration date of April 22, 2025.

Immediately prior to the completion of the Business Combination, all outstanding Legacy Shapeways common stock warrants were exercised into an aggregate of 255,917 shares of Legacy Shapeways common stock (212,234 shares of common stock post Business Combination).

***Legacy Shapeways Convertible Preferred Stock***

Immediately prior to the completion of the Business Combination, all outstanding shares of the Legacy Shapeways Series A-1, Series A-2, Series B, Series B-1, Series C, Series D, and Series E preferred stock converted into an aggregate of 22,579,695 shares of common stock. Each share of Legacy Shapeways convertible preferred stock was converted into one share of Legacy Shapeways common stock.

***Legacy Shapeways Preferred Stock Warrants***

On March 8, 2013, the Company issued warrants to purchase a total of 23,125 shares of Series B-1 preferred stock of Legacy Shapeways. The warrants had an exercise price of $2.5946 per share and were exercisable for ten years from the date of grant. On May 10, 2021, the 23,125 warrants were exercised for 23,125 shares of Series B-1 preferred stock of Legacy Shapeways at an exercise price of $2.5946 per share.

On June 30, 2017, in connection with executing a loan agreement, the Company issued warrants to purchase a total of 57,051 shares of Series D preferred stock of Legacy Shapeways. The warrants had an exercise price of $5.2584 per share and were exercisable for ten years from the date of grant. Immediately prior to the completion of the Business Combination, the 57,051 warrants were exercised for 107,580 shares of Legacy Shapeways common stock.

***Public Warrants***

Prior to the Merger, the Company had outstanding 13,800,000 Public Warrants. Each Public Warrant entitles the holder to purchase one share of common stock of the Company at an exercise price of $11.50 per share. The Public Warrants became exercisable 30 days after the Closing Date, and expire five years after the Closing Date or earlier upon redemption or liquidation.

*(in thousands, except share and per share amounts)*

The Company may redeem the Public Warrants as follows: in whole and not in part; at a price of $0.01 per warrant; at any time while the Public Warrants are exercisable, upon not less than 30 days' prior written notice of redemption to each Public Warrant holder; if, and only if, the reported last sale price of the Company's common stock equals or exceeds $18.00 per share, for any 20 days trading days within a 30 days-trading day period ending on the third business day prior to the notice of redemption to the warrant holders; and if, and only if, there is a current registration statement in effect with respect to the common stock underlying such warrants at the time of redemption and for the entire 30 days-day trading period referred to above and continuing each day thereafter until the date of redemption. Certain of these conditions have not been met to redeem the Public Warrants. If the Company calls the Public Warrants for redemption, management will have the option to require all holders that wish to exercise the Public Warrants to do so on a "cashless basis," as described in the warrant agreement.

In December 2022, the Company and the holders of the Private Warrants entered into letter agreements, pursuant to which such holders agreed that the Private Warrants will be exercisable for cash or on a cashless basis and redeemable on the same terms and subject to the same conditions as the Public Warrants.

As of December 31, 2022 and 2021, there were 18,410,000 and 15,295,612 Public Warrants outstanding, respectively. The following table provides a summary of the Public Warrants outstanding:

| | Public Warrants |
|---|---|
| Public Warrants prior to Merger | 13,800,000 |
| Transfers from private to public warrants during 2021 | 1,495,612 |
| Balance as of December 31, 2021 | 15,295,612 |
| Transfers from private to public warrants during 2022 | 3,114,388 |
| Balance as of December 31, 2022 | 18,410,000 |

**Note 13. Stock-Based Compensation**

Prior to the Business Combination, Legacy Shapeways maintained its 2010 Stock Plan (the "2010 Plan"), under which Legacy Shapeways granted statutory and non-statutory stock to employees, outside directors and consultants. The maximum number of shares of common stock that was issuable under the 2010 Plan was 16,942,546 shares.

In connection with the Business Combination, each Legacy Shapeways stock option that was outstanding immediately prior to Closing, whether vested or unvested, was converted into an option to acquire a number of shares of common stock (each such option, an "Exchanged Option") equal to the product of (i) the number of shares of Legacy Shapeways common stock subject to such Legacy Shapeways option immediately prior to the Business Combination and (ii) 90% of the Conversion Ratio, at an exercise price per share (rounded up to the nearest whole cent) equal to (A) the exercise price per share of such Legacy Shapeways option immediately prior to the consummation of the Business Combination, divided by (B) 90% of the Conversion Ratio. Except as specifically provided in the Business Combination Agreement, following the Business Combination, each Exchanged Option will continue to be governed by the same terms and conditions (including vesting and exercisability terms) as were applicable to the corresponding former Legacy Shapeways option immediately prior to the consummation of the Business Combination. All stock option activity was retroactively restated to reflect the Exchanged Options.

In addition, each holder of an in-the-money Legacy Shapeways option held by individuals remaining in continuous service to the Company through the Closing, was granted a right to receive an award of restricted stock units denominated in shares of common stock granted under the 2021 Equity Inventive Plan (the "2021 Plan") (each, an "Earnout RSU") equal to the product of (A) the number of shares of Legacy Shapeways common stock that were subject to the option immediately prior to Closing, multiplied by (B) ten percent (10%) of the Conversion Ratio. The Earnout RSUs are subject to substantially the same service-based vesting conditions and acceleration provisions as applied to the Legacy Shapeways option provided that, in addition to such service-based vesting conditions, Earnout RSUs will be subject to vesting and forfeiture conditions based upon the dollar volume-weighted price of the Company's common stock reaching certain targets (the “RSU Performance Milestones”). The Company records stock compensation expense for Earn-Out RSUs based upon an assessment of the grant date fair value using the Monte Carlo valuation model in accordance with FASB ASC 718. The Company did not grant any additional Earn-Out RSUs during the year ended December 31, 2022.

Upon the Closing of the Business Combination, the outstanding and unexercised Legacy Shapeways options became options to purchase an aggregate of 4,901,207 shares of the Company’s common stock under the 2010 Plan at an average exercise price of $0.62 per share.

***2021 Equity Incentive Plan***

Upon the closing of the Business Combination, the Company adopted the 2021 Plan. The 2021 Plan permits the granting of incentive stock options, restricted stock awards, other share-based awards or other cash-based awards to employees, consultants, and non-employee directors. On the first day of each calendar year, beginning on January 1, 2022 and continuing until (and including) January 1, 2031, the number of shares available under the 2021 Plan will automatically increase by a number equal to the lesser of (a) five percent (5%) of the total number of shares of the Company’s common stock issued and outstanding on December 31 of the calendar year immediately preceding the date of such increase and (b) a number of shares of our common stock determined by the Company’s Board of Directors. As of December 31, 2022, 10,052,787 shares of common stock are authorized for issuance pursuant to awards under the 2021 Plan. Any shares of common stock related to awards that are forfeited, cancelled, terminated, expire or shares withheld by the Company to satisfy tax withholding obligations or to pay any exercise price are deemed available for issuance under the 2021 Plan. As of December 31, 2022, 4,339,724 shares remain available for issuance under the 2021 Plan.

***2022 New Employee Equity Incentive Plan***

In September 2022, the Company adopted the 2022 New Employee Equity Incentive Plan (the "2022 Plan"). The 2022 Plan permits the granting of restricted stock awards, stock options and other share-based rewards to individuals who were not previously employees of the Company, as an inducement material to the individual's entry into employment with the Company within the meaning of Listing Rule 303A.08 of the New York Stock Exchange ("NYSE"). The 2022 Plan was adopted by the Board of Directors without stockholder approval pursuant to NYSE Listing Rule 303A.08. As of December 31, 2022, 5,000,000 shares of common stock are authorized for issuance pursuant to awards under the 2022 Plan. Any shares of common stock related to awards that are forfeited, cancelled, terminated, expire or shares withheld by the Company to satisfy tax withholding obligations or to pay any exercise price are deemed available for issuance under the 2022 Plan. As of December 31, 2022, 3,207,043 shares remain available for issuance under the 2022 Plan.

*Option Awards*

The Company accounts for share-based payments pursuant to ASC 718 and, accordingly, the Company records stock compensation expense for share-based awards based upon an assessment of the grant date fair value for stock options using the Black-Scholes option pricing model. The Company is a public company and lacks company-specific historical and implied volatility information. Therefore, it estimates its expected stock volatility based on the historical volatility of a publicly traded set of peer companies. Due to the lack of historical exercise history, the expected term of the Company’s stock options for employees has been determined utilizing the “simplified” method for awards. The risk-free interest rate is determined by reference to the U.S. Treasury yield curve. Expected dividend yield is zero based on the fact that the Company has never paid cash dividends and does not expect to pay any cash dividends in the foreseeable future.

*(in thousands, except share and per share amounts)*

The fair value of stock options under the Black-Scholes model requires management to make assumptions regarding projected employee stock option exercise behaviors, risk-free interest rates, volatility of the Company's stock price and expected dividends. The Company generally recognizes stock compensation expense on the grant date and over the period of vesting or period that services will be provided. There were no stock options granted during the year ended December 31, 2022. The weighted-average grant-date fair value per stock option granted during the year ended December 31, 2021 was $0.17. The assumptions used to estimate the fair value of stock options granted during the year ended December 31, 2021 were as follows:

| | Assumptions |
|---|---|
| Strike price | $ 0.17 |
| Expected term (in years) | 5.55 - 6.05 |
| Expected volatility | 57.09% - 57.81% |
| Risk-free interest rate | 0.50% - 0.57% |
| Dividend yield | — % |

The following table summarizes the Company's stock option activity for the period presented:

| | Shares Underlying Options | Weighted Average Exercise Price | Weighted Average Remaining Contractual Term (in years) | Aggregate Intrinsic Value |
|---|---|---|---|---|
| Outstanding at January 1, 2022 | 4,806,387 | $ 0.63 | 6.57 | |
| Granted | — | — | | |
| Forfeited | (139,230) | 0.60 | | |
| Exercised | (687,624) | 0.50 | | |
| Outstanding at December 31, 2022 | 3,979,533 | $ 0.65 | 5.67 | $ 376 |
| Exercisable at December 31, 2022 | 3,885,059 | $ 0.65 | 5.63 | $ 365 |

The total intrinsic value of options exercised during the years ended December 31, 2022 and 2021 was $740 and $9,450, respectively. The intrinsic value of options exercised during each year is calculated as the difference between the market value of the Company's stock price at the time of exercise and the exercise price of the stock option. As of December 31, 2022, approximately $33 of unrecognized stock compensation expense related to non-vested awards is expected to be recognized over the weighted average period of 0.98 years.

*Restricted Stock Units*

The following table summarizes the Company's restricted stock unit activity during the period presented:

| | Restricted Stock Units | Weighted Average Grant Fair Value per Share | Aggregate Intrinsic Value |
|---|---|---|---|
| Outstanding at January 1, 2022 | 660,448 | $ 3.80 | |
| Granted | 7,369,406 | 1.43 | |
| Forfeited | (934,196) | 1.71 | |
| Settled | (131,542) | 2.34 | |
| Outstanding at December 31, 2022 | 6,964,116 | $ 1.51 | $ 4,335 |

The total fair value of restricted stock unit awards vested during the years ended December 31, 2022 and 2021 was $1,121 and $1,610.

Total unrecognized stock compensation expense related to outstanding restricted stock unit awards was approximately $9,076 as of December 31, 2022 and is expected to be recognized over the weighted average period of 3.27 years.

*(in thousands, except share and per share amounts)*

***2021 Employee Stock Purchase Plan***

Upon the closing of the Business Combination, the Company adopted the 2021 Employee Stock Purchase Plan (the "ESPP"). The purpose of the ESPP is to provide eligible employees with an opportunity to increase their proprietary interest in the success of the Company by purchasing common stock from the Company on favorable terms and to pay for such purchases through payroll deductions or other approved contributions. As of December 31, 2022, 1,381,998 shares of common stock are available for purchase under the ESPP. As of December 31, 2022, no shares have been purchased under the ESPP.

**Note 14. Fair Value Measurements**

Fair value measurements discussed herein are based upon certain market assumptions and pertinent information available to management as of December 31, 2022 and 2021. The carrying amounts of accounts receivable, inventory, prepaid expenses and other current assets, accounts payable, accrued expenses and other liabilities, and deferred revenue approximated fair value as they are short term in nature. The fair value of warrants issued for settlement and services is estimated based on the Black-Scholes model. The carrying value of the Company's debt and operating lease liabilities approximated its fair value, as the obligation bears interest at rates currently available for debt with similar maturities and collateral requirements.

***Fair Value on a Recurring Basis***

The Company follows the guidance in ASC 820 for its financial assets and liabilities that are re-measured and reported at fair value at each reporting period, and non-financial assets and liabilities that are re-measured and reported at fair value at least annually. The estimated fair value of the warrant liabilities represents Level 3 measurements. The following table presents information about the Company's liabilities that are measured at fair value on a recurring basis at December 31, 2022 and 2021, and indicates the fair value hierarchy of the valuation inputs the Company utilized to determine such fair value:

| | | December 31, | |
|---|---|---|---|
| **Description** | **Level** | **2022** | **2021** |
| Assets: | | | |
| Marketable securities - U.S. Treasury Securities | 2 | $ 29,680 | $ — |
| | | | |
| Liabilities: | | | |
| Warrant liabilities | 3 | $ — | $ 2,274 |
| Earnout liability | 3 | $ 1,076 | $ — |

*Warrant Liabilities*

The Company had outstanding 4,110,000 Private Warrants that were issued upon the consummation of the initial public offering of Galileo. Additionally, at the Closing, a lender holding a convertible note issued by the Company with an aggregate principal amount of $500 converted the note into 500,000 Sponsor Warrants exercisable for common stock at a purchase price of $1.00 per warrant.

In December 2022, the Company and the holders of the Private Warrants entered into letter agreements, pursuant to which such holders agreed that the Private Warrants will be exercisable for cash or on a cashless basis and redeemable on the same terms and subject to the same conditions as the Public Warrants.

The Private Warrants and Sponsor Warrants were identical to the Public Warrants except that the Private Warrants and Sponsor Warrants (i) were not redeemable by the Company and (ii) may be exercised for cash or on a cashless basis, so long as they are held by the initial purchaser or any of its permitted transferees. If the Private Warrants or Sponsor Warrants are held by someone other than the initial purchasers or their permitted transferees, the Private Warrants or Sponsor Warrants will be redeemable by the Company and exercisable by such holders on the same basis as the Public Warrants. Upon the transfer of a Private Warrant or Sponsor Warrant to a party other than an initial purchaser or any of its permitted transferees, the Private Warrants or Sponsor Warrants become Public Warrants and the fair market value of the Private Warrants at the date of the transfer is reclassified to equity.

*(in thousands, except share and per share amounts)*

The Private Warrants and Sponsor Warrants were not indexed to the Company's common stock in the manner contemplated by ASC 815-40-15 because the holder of the instrument was not an input into the pricing of a fixed-for-fixed option on equity shares. The Company classified the Private Warrants and Sponsor Warrants as derivative liabilities in its consolidated balance sheet as of December 31, 2022.

The Company utilized a Binomial Lattice model approach to value the Private Warrants and Sponsor Warrants at each reporting period with changes in fair value recognized in the statement of operations. The estimated fair value of the warrant liabilities was determined using Level 3 inputs. Inherent in a binomial options pricing model are assumptions related to expected share-price volatility, expected life, risk-free interest rate and dividend yield. The Company estimated the volatility of its common stock based on historical volatility that matched the expected remaining life of the warrants. The risk-free interest rate was based on the U.S. Treasury zero-coupon yield curve on the grant date for a maturity similar to the expected remaining life of the warrants. The expected life of the warrants was assumed to be equivalent to their remaining contractual term. The dividend rate was based on the historical rate, which the Company anticipated to remain at zero.

There was no warrant liability balance as of December 31, 2022. The significant unobservable inputs used in the Binomial Lattice Model to measure the warrant liabilities that are categorized within Level 3 of the fair value hierarchy as of December 31, 2021 were as follows:

| | | |
|---|---|---|
| Stock price on valuation date | $ | 3.71 |
| Exercise price per share | $ | 11.50 |
| Expected life | | 4.75 years |
| Volatility | | 56.4 % |
| Risk-free rate | | 1.2 % |
| Dividend yield | | — % |
| Fair value per warrant | $ | 0.73 |

The following table provides a summary of changes in the Company's warrant liabilities that are classified as Level 3 financial instruments measured at fair value on a recurring basis:

| | December 31, | | | |
|---|---|---|---|---|
| | 2022 | | 2021 | |
| Balance at beginning of year | $ | 2,274 | $ | — |
| Additions pursuant to Merger | | — | | 11,865 |
| Transfer of Private Warrants to Public Warrants | | (690) | | (1,485) |
| Change in fair value | | (1,584) | | (8,106) |
| Balance at end of year | $ | — | $ | 2,274 |

For the years ended December 31, 2022 and 2021, the Company recognized income resulting from a change in the fair value of warrant liabilities of $1,584 and $8,106, respectively.

There were no private warrants outstanding as of December 31, 2022. Private warrants outstanding as of December 31, 2021 were 3,114,388.

*(in thousands, except share and per share amounts)*

*Earnout Liability*

The following table provides a summary of the change in the balance of the earnout liability associated with the acquisition of Linear which is included within the other current liabilities within the balance sheet (See Note 4 for information on the acquisition of Linear):

| | Earnout Liability |
|---|---|
| Balance at December 31, 2021 | $ — |
| Recognition of Linear earnout liability | 2,900 |
| Change in fair value | (1,824) |
| Balance at December 31, 2022 | $ 1,076 |

For the year ended December 31, 2022, the Company recognized income resulting from a change in the fair value of the earnout liability of $,824.

***Fair Value on a Non-Recurring Basis***

At the Closing, there were 3,510,405 shares of common stock issued as part of the Merger consideration (the "Earnout Shares") subject to vesting and forfeiture conditions (the "Earnout Terms") based upon the volume-weighted average trading price of common stock reaching targets of $14.00 and $16.00, respectively (with 50% released at each target) for a period of 30 consecutive trading days during the three-year period after the Closing, with the portion of such shares that would otherwise be deliverable to Legacy Shapeways stockholders at the Closing being withheld and deposited into escrow. The fair value of the Earnout Shares was estimated using the trading price of the common stock at Closing ($7.70), discounted based on the probability of the Earnout Terms being met as determined at Closing, and thus represents a Level 2 fair value measurement as defined in ASC 820. The Earnout Shares, if achieved, would be issued to Legacy Shapeways stockholders. The Earnout Shares are a fixed number of shares to be issued to such stockholders on a pro rata basis. The fair value of the Earnout Shares was recognized as a deemed dividend. Upon closing of the Merger, the estimated fair value of the Earnout Shares was $18,132 with such amount recognized as a deemed dividend. As the Company was in an accumulated deficit position as of the measurement date, the resulting deemed dividend was recorded as a reduction of additional paid-in capital with a corresponding offset recorded to additional paid-in capital. As of December 31, 2022, there were 3,510,405 Earnout Shares unvested and remaining subject to the Earnout Terms.

**Note 15. Income Taxes**

The provision for income taxes consists of the following:

| | Year Ended December 31, | |
|---|---|---|
| | 2022 | 2021 |
| Income tax provision: | | |
| Current | | |
| Non-US | $ 5 | $ (71) |
| Federal | (1) | — |
| State | — | — |
| Deferred | | |
| Non-US | — | — |
| Federal | 23 | — |
| State | 4 | — |
| Provision for income taxes | $ 31 | $ (71) |

**SHAPEWAYS HOLDINGS, INC.**
**NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS**
*(in thousands, except share and per share amounts)*

A reconciliation of the income tax expense calculated using the applicable federal statutory rate to the Company's actual income tax expense is as follows:

| | December 31, | |
|---|---|---|
| | 2022 | 2021 |
| Federal statutory income tax rate | 21.00 % | 21.00 % |
| State and local income taxes, net of federal benefit | 3.48 % | (9.65)% |
| Nondeductible expenses | (0.10)% | 0.53 % |
| Other | (0.03)% | — % |
| Loan forgiveness | — % | (11.53)% |
| Warrant liabilities | 1.65 % | (55.32)% |
| Stock-based compensation | (0.01)% | (25.33)% |
| Change in state tax rates | 1.74 % | 6.07 % |
| Change in valuation allowance | (26.83)% | 73.68 % |
| True-up adjustments | (1.06)% | (1.67)% |
| Foreign rate differential | (0.01)% | 0.28 % |
| | (0.17)% | (1.94)% |

Deferred income taxes are recognized for the future tax consequences of temporary differences between the financial statement and tax bases of assets and liabilities.The tax effect of temporary differences that give rise to a significant portion of the deferred tax assets and tax liabilities are as follows:

| | December 31, | |
|---|---|---|
| | 2022 | 2021 |
| Deferred tax assets: | | |
| Intangible assets and goodwill | $ 15 | $ — |
| Sec. 174 research and development costs | 2,159 | — |
| Accrued expense | 112 | 64 |
| Sec. 263(a) | 17 | 17 |
| Stock compensation | 1,157 | 477 |
| ASC 842 – Operating lease liabilities | 565 | 29 |
| Property and equipment | 216 | 194 |
| Net operating losses | 27,036 | 24,291 |
| Earnout consideration | 261 | |
| Tax credits | 893 | 893 |
| Acquisition costs | 90 | — |
| Other | 251 | 6 |
| Less: valuation allowance | (32,196) | (25,971) |
| Total deferred tax assets | 576 | — |
| | | |
| Deferred tax liabilities: | | |
| Intangible assets and goodwill | $ (28) | $ — |
| Property equipment | (25) | — |
| ASC 842 Right-of-use assets | (550) | — |
| Total deferred tax liabilities | (603) | — |
| Net deferred tax liabilities | $ (27) | $ — |

The valuation allowance for deferred tax assets increased by $6,225 to $32,196 in 2022. In determining the carrying value of our deferred tax assets, the Company evaluated all available evidence that led to a conclusion that based upon the more-likely-than-not standard of the accounting literature, these deferred tax assets were unrecoverable. The valuation allowance has no impact on the Company's net operating loss ("NOL") position for tax purposes, and if the Company generates taxable income in future periods, it will be able to use the NOLs to offset taxes due at that time.

As of December 31, 2022, the Company had federal net operating loss carryforwards of approximately $110,791, $71,122 of which, if not utilized, expire by 2038. Federal net operating loss carryforwards totaling approximately $39,669 can be carried forward indefinitely. In addition, the Company has state net operating loss carryforwards of approximately $115,099, with varying expiration dates as determined by each state; some of which may be indefinite lived. Internal Revenue Code of 1986 Section 382 ("Section 382") and Section 383 provide an annual limitation with respect to the ability of a corporation to utilize its tax attributes, as well as certain built-in losses, against future U.S. taxable income in the event of a change of ownership. These carryforwards are not subject to limitation by Section 382 and are all expected to be available to offset future U.S. taxable income.

On March 27, 2020, the President signed the Coronavirus Aid, Relief, and Economic Security ("CARES") Act into law. The CARES Act includes several significant business tax provisions that, among other things, eliminates the taxable income limit for certain net operating losses ("NOLs") and allows businesses to carry back NOLs arising in 2018, 2019 and 2020 to the five prior years, suspends the excess business loss rules, accelerates refunds of previously generated corporate alternative minimum tax credits, generally loosens the business interest limitation under IRC section 163(j) from 30 percent to 50 percent among other technical corrections included in the Tax Cuts and Jobs Act tax provisions. The provisions of the CARES Act did not have a significant impact on the Company's income tax provision, taxes payable, or deferred tax accounts as of December 31, 2022.

**Note 16. Significant Concentrations**

One customer accounted for approximately 20% and 23% of revenue for the years ended December 31, 2022 and 2021, respectively. No other customers represented more than 10% of revenue for the years ended December 31, 2022 and 2021.

As of December 31, 2022, two customers accounted for approximately 17% and 16% of accounts receivable. As of December 31, 2021, two customers accounted for approximately 32% and 25% of accounts receivable. No other customers represented more than 10% of outstanding accounts receivable as of December 31, 2022 and 2021.

As of December 31, 2022, one vendor represented 10% of accounts payable. As of December 31, 2021, two vendors accounted for approximately 18%, and 11% of accounts payable. No other vendors represented more than 10% of outstanding accounts payable balance as of December 31, 2022 and 2021.

**Note 17. Subsequent Events**

The Company has evaluated all known subsequent events through March 30, 2023, which is the date these consolidated financial statements were issued, and has determined that no subsequent events have occurred requiring recognition or disclosure in these consolidated financial statements.

**Exhibit 4.4**

**DESCRIPTION OF SHAPEWAYS HOLDINGS, INC.'S SECURITIES
REGISTERED PURSUANT TO SECTION 12 OF THE
SECURITIES EXCHANGE ACT OF 1934**

The following description of the common stock, par value $0.0001 per share and the Public Warrants (as defined herein) of Shapeways Holdings, Inc. ("us," "our," "we," the "Company," or "Shapeways"), which are the only securities of the Company registered under Section 12 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), summarizes certain information regarding the common stock and the Public Warrants in our amended and restated certificate of incorporation (the "Charter"), our amended and restated bylaws (the "Bylaws") and applicable provisions of Delaware general corporate law (the "DGCL"), and is qualified by reference to our Charter and our Bylaws, which are incorporated by reference as Exhibit 3.1 and 3.2, respectively, to the Annual Report on Form 10-K for the fiscal year ending December 31, 2022 (our "Annual Report").

**Authorized and Outstanding Stock**

Our Charter authorizes the issuance of 130,000,000 shares, consisting of 120,000,000 shares of common stock, par value $0.0001 per share, and 10,000,000 shares of preferred stock, par value $0.0001 per share.

***Common Stock***

*Voting*

The holders of common stock are entitled to one vote per share on all matters submitted to the stockholders for their vote or approval. Directors of the Company are elected by a plurality of the votes present in person or represented by proxy and entitled to vote.

*Dividends*

The holders of common stock are entitled to receive dividends, as and if declared by the board of directors of the Company (the "Board") out of legally available funds.

*Liquidation Rights*

Upon the liquidation or dissolution of Shapeways, the holders of common stock are entitled to share ratably in those of Shapeways' assets that are legally available for distribution to stockholders after payment of liabilities and subject to the prior rights of any holders of preferred stock then outstanding.

*Pre-Emptive or other Subscription Rights*

The holders of common stock do not have any pre-emptive or other subscription rights.

***Preferred Stock***

Shapeways is authorized to issue up to 10,000,000 shares of preferred stock, par value $0.0001 per share. The Board is authorized, subject to limitations prescribed by DGCL and the Charter, to determine the terms and conditions of the preferred stock, including whether the shares of preferred stock will be issued in one or more series, the number of shares to be included in each series and the powers (including the voting power), designations, preferences and rights of the shares. The Board also is authorized to designate any qualifications, limitations or restrictions on the shares without any further vote or action by the stockholders.

***Public Warrants***

Each Public Warrant entitles the holder to purchase one share of common stock at an exercise price of $11.50 per share. Shapeways has the ability to redeem outstanding Public Warrants at any time prior to their expiration, at a price of $0.01 per Public Warrant, provided that the last reported sales price of the common stock equals or exceeds $18.00 per share (as adjusted for share subdivisions, share dividends, rights issuances, subdivisions, reorganizations, recapitalizations, and the like) for any 20 trading days within a 30-trading-day period ending on the third trading day prior to the date Shapeways sends the notice of redemption to the holders. If and when the Public Warrants become redeemable by Shapeways, Shapeways may exercise its redemption right even if Shapeways is unable to register or qualify the underlying securities for sale under all applicable state securities laws.

In addition, Shapeways may redeem the Public Warrants at any time prior to their expiration at a price of $0.01 per Public Warrant upon a minimum of 30 days' prior written notice of redemption provided that holders will be able to exercise their Public Warrants prior to redemption for a number of common shares determined based on the redemption date and the fair market value of the common stock.

***Private Warrants***

Simultaneously with the closing of Galileo Acquisition Corp.'s initial public offering, Galileo Founders Holdings, L.P. and EarlyBirdCapital, Inc. and its designees purchased an aggregate of 4,110,000 private warrants at $1.00 per private warrant, for an aggregate purchase price of $4,110,000 (the "Private Warrants"). Effective December 9, 2022, the Company and the holders of the Private Warrants entered into letter agreements, pursuant to which such holders agreed that the Private Warrants be exercisable for cash or on a cashless basis and redeemable by the Company on the same terms and subject to the same conditions as the Public Warrants.

***Exclusive Forum***

Our Charter provides that, to the fullest extent permitted by law, and unless the Company consents 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 (i) any derivative action or proceeding brought on behalf of the Company, (ii) any action asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee of the Company to the Company or the Company' stockholders, (iii) any action asserting a claim against the Company, its directors, officers or employees arising pursuant to any provision of the DGCL or our Charter or our Bylaws, or (iv) any action asserting a claim governed by the internal affairs doctrine. In addition, if an action is brought outside of Delaware, the stockholder bringing the suit will be deemed to have consented to service of process on such stockholder's counsel.

Our Charter provides that any person or entity purchasing or otherwise acquiring or holding any interest in shares of the Company's capital stock shall be deemed to have notice of and consented to the foregoing choice of forum provision.

Our Charter provides further that unless the Company consents in writing to the selection of an alternative forum, the federal district courts of the United States shall, to the fullest extent permitted by law, be the sole and exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act of 1933. The clauses described above will not apply to suits brought to enforce a duty or liability created by the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction.

**Anti-Takeover Effects of Provisions of our Charter and Bylaws**

Our Charter and Bylaws contain certain provisions that are intended to enhance the likelihood of continuity and stability in the composition of the Board and that may have the effect of delaying, deferring or preventing a future takeover or change in control of the Company unless such takeover or change in control is approved by the Board.

These provisions include:

*Action by Written Consent; Meetings of Stockholders*. Our Charter provides that stockholder action can be taken only at an annual meeting of stockholders and cannot be taken by written consent in lieu of a meeting. Our Charter and Bylaws also provide that, subject to any special rights of the holders of any series of preferred stock and except as otherwise required by applicable law, meetings of the stockholders can only be called by the Chairman of the

Board, the Company’s Chief Executive Officer or by the majority of the Board. Except as described above, stockholders are not permitted to call a special meeting or to require the Board to call a special meeting.

*Advance Notice Procedures*. Our Bylaws establish an advance notice procedure for stockholder proposals to be brought before an annual meeting of stockholders, and for stockholder nominations of persons for election to the Board to be brought before an annual or meeting of stockholders. Stockholders at an annual meeting will only be able to consider proposals or nominations specified in the notice of meeting or brought before the meeting by or at the direction of the Board or by a stockholder who was a stockholder of record on the record date for the meeting, who is entitled to vote at the meeting and who has given the Company’s secretary timely written notice, in proper form, of the stockholder’s intention to bring that business or nomination before the meeting. Although the Bylaws do not give the Board the power to approve or disapprove stockholder nominations of candidates or proposals regarding other business to be conducted at a special or annual meeting, as applicable, the Bylaws may have the effect of precluding the conduct of certain business at a meeting if the proper procedures are not followed or may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect its own slate of directors or otherwise attempting to obtain control of the Company.

*Authorized but Unissued Shares.* The Company’s authorized but unissued shares of common stock and preferred stock are available for future issuance without stockholder approval, subject to rules of the securities exchange on which the common stock is listed. These additional shares may be utilized for a variety of corporate purposes, including future public offerings to raise additional capital, corporate acquisitions, in connection with the redemption or exchange of the Company’s warrants and employee benefit plans. The existence of authorized but unissued shares of common stock and preferred stock could render more difficult or discourage an attempt to obtain control of a majority of Company’s common stock by means of a proxy contest, tender offer, merger or otherwise.

*Business Combinations.* The Company is subject to the provisions of Section 203 of the DGCL. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a “business combination” with an “interested stockholder” for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in the following prescribed manner:

- prior to the time of the transaction, the board of directors of the corporation approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;

- upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding (1) shares owned by persons who are directors and also officers and (2) shares owned by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; and

- on or subsequent to the time of the transaction, the business combination is approved by the board and authorized at an annual meeting stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock which is not owned by the interested stockholder.

Generally, for purposes of Section 203, a “business combination” includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. An “interested stockholder” is a person who, together with affiliates and associates, owns or, within three years prior to the determination of interested stockholder status, owned 15% or more of a corporation’s outstanding voting securities.

Such provisions may encourage companies interested in acquiring Company to negotiate in advance with the Board because the stockholder approval requirement would be avoided if the Board approves either the business combination or the transaction that results in the stockholder becoming an interested stockholder. However, such provisions also could discourage attempts that might result in a premium over the market price for the shares held by stockholders. These provisions also may make it more difficult to accomplish transactions that stockholders may otherwise deem to be in their best interests.

*Staggered Board of Directors.* Our Charter provides that the Board be classified into three classes of directors of approximately equal size. As a result, in most circumstances, a person can gain control of the Board only by successfully engaging in a proxy contest at two or more annual meetings.

**Limitations on Liability and Indemnification of Officers and Directors**

Our Bylaws limit the liability of the Company's directors and officers to the fullest extent permitted by the DGCL and provides that the Company will provide them with customary indemnification and advancement and prepayment of expenses. The Company has entered into, and expects to continue to enter into, customary indemnification agreements with each of its executive officers and directors that provide them, in general, with customary indemnification in connection with their service to the Company or on its behalf.

**Transfer Agent and Warrant Agent**

The transfer agent for our common stock and warrant agent for our warrants is Continental Stock Transfer & Trust Company, 1 State Street, 30th Floor, New York, New York 10004.

**Listing of Shapeways' Securities**

Our common stock and the Public Warrants are listed on the NYSE under the symbols "SHPW" and "SHPW WS."

# Shapeways Holdings, Inc.
# 2021 Equity Incentive Plan
# Notice of Stock Option Grant

You have been granted the following option to purchase Common Shares of Shapeways Holdings, Inc. (the “Company”) on the terms and conditions set out below:

| | |
|---|---|
| Name of Optionee: | «Name» |
| Total Number of Common Shares: | «TotalShares» |
| Type of Option (U.S. Tax Status): | «ISO» Incentive Stock Option (ISO)<br>«NSO» Nonstatutory Stock Option (NSO) |
| Exercise Price per Share: | US$ «PricePerShare» |
| Date of Grant: | «DateGrant» |
| Vesting Commencement Date: | «VestDay» |
| Expiration Date: | «ExpDate». This option expires earlier if your Service terminates earlier, as described in the Stock Option Agreement, and may terminate earlier in connection with certain corporate transactions as described in Article 9 of the Plan. |

You and the Company agree that this option is granted under and governed by the terms and conditions of the Company’s 2021 Equity Incentive Plan (the “Plan”) and the Stock Option Agreement, both of which are attached to, and made a part of, this document. Capitalized terms not otherwise defined herein shall have the meanings assigned to such terms in the Plan or the Stock Option Agreement, as applicable.

The Company may, in its sole discretion, decide to deliver any documents related to options awarded under the Plan, future options that may be awarded under the Plan and all other documents that the Company is required to deliver to shareholders (including annual reports and proxy statements) by email or other electronic means (including by posting them on a website maintained by the Company or a third party under contract with the Company). You hereby consent to receive such documents by electronic delivery and agree to participate in the Plan through any on-line or electronic system established and maintained by the Company or another third party designated by the Company. You acknowledge that you may incur costs in connection with any such delivery by means of electronic transmission, including the cost of accessing the Internet and printing fees, and that an interruption of Internet access may interfere with your ability to access the documents.

***YOU FURTHER AGREE TO COMPLY WITH THE COMPANY’S INSIDER TRADING POLICY, AS IN EFFECT FROM TIME TO TIME, WHEN SELLING COMMON SHARES***.

# Shapeways Holdings, Inc.
# 2021 Equity Incentive Plan
# Stock Option Agreement

| | |
|---|---|
| **Grant of Option** | Subject to all of the terms and conditions set forth in the Notice of Stock Option Grant (the "Grant Notice"), this Stock Option Agreement (the "Agreement") and the Plan, the Company has granted you an option to purchase up to the total number of Common Shares specified in the Grant Notice at the exercise price indicated in the Grant Notice.<br><br>All capitalized terms used in this Agreement shall have the meanings assigned to them in this Agreement, the Grant Notice or the Plan, as applicable. |
| **U.S. Tax Treatment** | This option is intended to be a [an incentive stock option] [a nonstatutory stock option], as provided in the Grant Notice. However, even if this option is designated as an incentive stock option in the Grant Notice, it shall be deemed to be a nonstatutory stock option to the extent it does not qualify as an incentive stock option under federal tax law, including under the $100,000 annual limitation under Section 422(d) of the Code. |
| **Vesting** | This option vests and becomes exercisable in accordance with the vesting schedule set forth in the Grant Notice.<br><br>In no event will this option vest or become exercisable for additional Common Shares after your Service has terminated for any reason unless expressly provided in a written agreement between you and the Company. |
| **Term of Option** | This option expires in any event at the close of business at Company headquarters on the day before the 10th anniversary of the Date of Grant, as shown in the Grant Notice. (This option will expire earlier if your Service terminates earlier, as described below, and this option may be terminated earlier as provided in Article 9 of the Plan.) |
| **Termination of Service** | If your Service terminates for any reason, this option will expire to the extent it is unvested as of your termination date and does not vest as a result of your termination of Service. The Company determines whether and when your Service terminates for all purposes of this option. |
| **Regular Termination** | If your Service terminates for any reason except death or total and permanent disability, then this option, to the extent vested as of your termination date, will expire at the close of business at Company headquarters on the date three months after your termination date. |

| | |
|---|---|
| **Death** | If your Service terminates as a result of your death, then this option, to the extent vested as of the date of your death, will expire at the close of business at Company headquarters on the date twelve months after the date of death. |
| **Disability** | If your Service terminates because of your total and permanent disability, then this option, to the extent vested as of your termination date, will expire at the close of business at Company headquarters on the date six months after your termination date.<br><br>For all purposes under this Agreement, "total and permanent disability" means that you are unable to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or which has lasted, or can be expected to last, for a continuous period of not less than twelve months. |
| **Leaves of Absence and Part-Time Work** | For purposes of this option, your Service does not terminate when you go on a military leave, a sick leave or another *bona fide* leave of absence, if the leave was approved by the Company in writing. However, except as otherwise determined by the Company, your Service terminates when the approved leave ends, unless you immediately return to active work.<br><br>If you go on an unpaid leave of absence that lasts more than 30 days, then, to the extent permitted by applicable law, the vesting schedule specified in the Grant Notice will be suspended on the thirty-first day of such unpaid leave, and this option will not vest or become exercisable with respect to any additional Common Shares during the remainder of such leave. Vesting will resume when you return to active Service. If you go on a paid leave of absence, the vesting schedule specified in the Grant Notice may be suspended and/or adjusted in accordance with the Company's leave of absence policy or the terms of your leave.<br><br>If you commence working on a part-time basis, the Company may adjust the vesting schedule so that the rate of vesting is commensurate with your reduced work schedule. |

| | |
|---|---|
| **Restrictions on Exercise/Compliance with Law** | The Company will not permit you to exercise this option if the issuance of Common Shares at that time would violate any law or regulation.<br><br>Notwithstanding any other provision in the Plan, the Grant Notice, or this Agreement, unless there is an available exemption from registration, qualification or other legal requirement applicable to the Common Shares, the Company shall not be required to permit the exercise of this option and/or delivery of Common Shares prior to the completion of any registration or qualification of the Common Shares under any federal, state, local, or foreign securities law or under rulings or regulations of the Securities and Exchange Commission ("SEC") or of any other governmental body, or prior to obtaining any approval or other clearance from any federal, state, local or foreign governmental agency, which registration, qualification or approval the Company shall, in its absolute discretion, deem necessary or advisable. You understand that the Company is under no obligation to register or qualify the Common Shares with the SEC or any state securities commission or to seek approval or clearance from any governmental authority for the issuance or sale of the Common Shares. |
| **Notice of Exercise** | When you wish to exercise this option, you must notify the Company by filing the proper "Notice of Exercise" form at the address given on the form or, if the Company has designated a third party to administer the Plan, you must notify such third party in the manner such third party requires. Your notice must specify how many Common Shares you wish to purchase. The notice will be effective when the Company receives it.<br><br>However, if you wish to exercise this option by executing a same-day sale (as described below), you must follow the instructions of the Company and the broker who will execute the sale.<br><br>If someone else wants to exercise this option after your death, that person must prove to the Company's satisfaction that he or she is entitled to do so.<br><br>You may only exercise your option for whole Common Shares. |

**Form of Payment**

When you submit your notice of exercise, you must make arrangements for the payment of the option exercise price for the Common Shares that you are purchasing. To the extent permitted by applicable law, payment may be made in one (or a combination of two or more) of the following forms:

- By delivering to the Company your personal check, a cashier's check or a money order, or arranging for a wire transfer; or
- By giving to a securities broker approved by the Company irrevocable directions to sell all or part of your option shares and to deliver to the Company, from the sale proceeds, an amount sufficient to pay the option exercise price and any Tax-Related Items (as defined below). (The balance of the sale proceeds, if any, will be delivered to you.) The directions must be given in accordance with the instructions of the Company and the broker. This exercise method is sometimes called a "same-day sale."

The Company may permit other forms of payment in its discretion to the extent permitted by the Plan.

**Withholding Taxes**

Regardless of any action the Company (or, if applicable, the Parent, Subsidiary or Affiliate employing or retaining you (the "Employer")) takes with respect to any or all income tax, social insurance, payroll tax, payment on account or other tax-related items related to the participation in the Plan and legally applicable to you ("Tax-Related Items"), you acknowledge that the ultimate liability for all Tax-Related Items is and remains your responsibility and may exceed the amount actually withheld by the Company and/or the Employer. You further acknowledge that the Company and the Employer (1) make no representations or undertakings regarding the treatment of any Tax-Related Items in connection with any aspect of the options, including, but not limited to, the grant, vesting or exercise of the option, the issuance of Common Shares upon exercise of the option, the subsequent sale of Common Shares acquired pursuant to such exercise and the receipt of any dividends and/or any dividend equivalents; and (2) do not commit to and are under no obligation to structure the terms of the option or any aspect of the option to reduce or eliminate your liability for Tax-Related Items or achieve any particular tax result. Further, if you are subject to tax in more than one jurisdiction, you acknowledge that the Company and/or the Employer may be required to withhold or account for Tax-Related Items in more than one jurisdiction.

You will not be allowed to exercise this option unless you make arrangements acceptable to the Company and/or the Employer to pay any Tax-Related Items that the Company and/or the Employer determine must be withheld. These arrangements include payment in cash or via the same-day sale procedure described above. With the Company's consent, these arrangements may also include (a) withholding Common Shares of Company stock that otherwise would be issued to you when you exercise this option with a value equal to withholding taxes, (b) surrendering Common Shares that you previously acquired with a value equal to the withholding taxes, or (c) withholding cash from other compensation. The value of withheld or surrendered Common Shares, determined as of the date when taxes otherwise would have been withheld in cash, will be applied to the Tax-Related Items.

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| **Restrictions on Resale** | You agree not to sell any option shares at a time when applicable laws, Company policies or an agreement between the Company and its underwriters prohibit a sale. This restriction will apply as long as your Service continues and for such period of time after the termination of your Service as the Company may specify. |
| **Transfer of Option** | Prior to your death, only you may exercise this option. You cannot transfer or assign this option. For instance, you may not sell this option or use it as security for a loan. If you attempt to do any of these things, this option will immediately become invalid. You may, however, dispose of this option in your will or by means of a written beneficiary designation (if authorized by the Company and to the extent such beneficiary designation is valid under applicable law) which must be filed with the Company on the proper form; provided, however, that your beneficiary or a representative of your estate acknowledges and agrees in writing in a form reasonably acceptable to the Company, to be bound by the provisions of this Agreement and the Plan as if such beneficiary or representative of the estate were you.<br><br>Regardless of any marital property settlement agreement, the Company is not obligated to honor a notice of exercise from your former spouse, nor is the Company obligated to recognize your former spouse's interest in your option in any other way. |
| **No Retention Rights** | Neither your option nor any documentation related thereto (including this Agreement, the Grant Notice and the Plan) gives you the right to be retained by the Company, a Parent, a Subsidiary, or an Affiliate in any capacity. The Company and its Parents, Subsidiaries, and Affiliates reserve the right to terminate your Service at any time, with or without cause. |
| **Stockholder Rights** | You, or your estate or heirs, have no rights as a stockholder of the Company until you have exercised this option by giving the required notice to the Company, paying the exercise price, and satisfying any applicable Tax-Related Items. No adjustments are made for dividends or other rights if the applicable record date occurs before you exercise this option, except as described in the Plan. |

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| **Recoupment Policy** | This option, and the Common Shares acquired upon exercise of this option, shall be subject to recoupment or clawback under any Company policy in effect from time to time, or to the extent required by applicable law in effect at the relevant time (including, without limitation, Section 304 of the Sarbanes-Oxley Act and Section 954 of the Dodd-Frank Wall Street Reform and Consumer Protection Act) and/or the rules and regulations of any applicable securities exchange or inter-dealer quotation system on which the Common Shares may be listed or quoted. |
| **Adjustments** | In the event of a stock split, stock dividend, reorganization and recapitalization or a similar change in Company common stock, the number of Common Shares covered by this option and the exercise price per share will be adjusted pursuant to the Plan. |
| **Effect of Significant Corporate Transactions** | If the Company is a party to a merger, consolidation, or certain change in control transactions, then this option will be subject to the applicable provisions of Article 9 of the Plan. |
| **Amendment and Waiver** | The Committee, at any time, and from time to time, may amend the terms of the Grant Notice or this Agreement; provided, however, that your rights shall not be materially and adversely affected without your written consent.<br><br>Any right of the Company contained in the Grant Notice or this Agreement may be waived in writing by the Committee. No waiver of any right hereunder by any party shall operate as a waiver of any other right, or as a waiver of the same right with respect to any subsequent occasion for its exercise, or as a waiver of any right to damages. No waiver by any party of any breach of the Grant Notice or this Agreement shall be held to constitute a waiver of any other breach or a waiver of the continuation of the same breach. |
| **Applicable Law; Consent to Jurisdiction; Waiver of Jury Trial** | This Agreement and the Grant Notice will be interpreted and enforced under the laws of the State of Delaware without regard to its choice-of-law provisions or principles of conflicts of laws of any other jurisdiction which could cause the application of the laws of any jurisdiction other than the State of Delaware.<br><br>You and the Company (on behalf of itself and its Affiliates) each consents to jurisdiction in a Delaware state or a federal court sitting in Wilmington, Delaware, and each waives any other requirement (whether imposed by statute, rule of court or otherwise) with respect to personal jurisdiction or service of process and waives any objection to jurisdiction based on improper venue or improper jurisdiction. EACH OF THE PARTIES HERETO HEREBY IRREVOCABLY WAIVES ALL RIGHT TO TRIAL BY JURY, IN ANY ACTION, PROCEEDING OR COUNTERCLAIM ARISING OUT OF OR RELATING TO THE PLAN, THE GRANT NOTICE OR THIS AGREEMENT.. |

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| **Successors; Interpretation** | The terms of the Grant Notice and this Agreement shall be binding upon and inure to the benefit of the Company and its successors and assigns, and of you and your beneficiaries, executors, administrators, heirs and successors. The invalidity or unenforceability of any provision of this Agreement (or the Grant Notice, as applicable) shall not affect the validity or enforceability of any other provision of this Agreement (or the Grant Notice, as applicable), and each other provision of this Agreement (or the Grant Notice, as applicable) shall be severable and enforceable to the extent permitted by law. The headings of the sections hereof are provided for convenience only and are not to serve as a basis for interpretation or construction, and shall not constitute a part, of the Grant Notice or this Agreement. Pronouns and other words of gender shall be read as gender-neutral. Words importing the plural shall include the singular and the singular shall include the plural. Each of the Grant Notice and this Agreement may be entered into in counterparts. |
| **The Plan and Other Agreements** | The text of the Plan is incorporated in this Agreement by reference. The Committee shall have final authority to interpret and construe the Plan, the Grant Notice and this Agreement and to make any and all determinations under them, and its decision shall be binding and conclusive upon you and all other persons in respect of any questions arising under the Plan, the Grant Notice or this Agreement.<br><br>This Plan, this Agreement and the Grant Notice constitute the entire understanding between you and the Company regarding this option. Any prior agreements, commitments or negotiations concerning this option are superseded.<br><br>Notwithstanding any provisions in the Grant Notice or this Agreement, if you are located outside of the United States, the options shall be subject to any special terms, conditions or notifications for your country. Moreover, if you relocate to another country, any special terms and conditions for such country will apply to you, to the extent the Company determines that the application of such terms and conditions is necessary or advisable in order to comply with local law or facilitate the administration of the Plan. |

**BY ACCEPTING THIS OPTION GRANT, YOU AGREE TO ALL OF THE TERMS AND CONDITIONS DESCRIBED ABOVE AND IN THE PLAN.**

**Exhibit 21.1**

| **Direct Subsidiaries of Shapeways Holdings, Inc.** | **State/Country of Formation** |
|---|---|
| Shapeways, Inc. | Delaware |
| Shapeways B.V. | The Netherlands |
| Linear Mold and Engineering, LLC | Michigan |

Exhibit 23.1

**Consent of Independent Registered Public Accounting Firm**

We hereby consent to the incorporation by reference in the Registration Statements on Form S-3 (No. 333-260387 and 333-267763) and Form S-8 (No. 333-261563, 333-264160, and 333-268055) of Shapeways Holdings, Inc., our report dated March 30, 2023, relating to the consolidated financial statements, which appear in this Form 10-K.

/s/ WithumSmith+Brown, PC

East Brunswick, New Jersey
March 30, 2023

Exhibit 31.1

CERTIFICATION OF THE CHIEF EXECUTIVE OFFICER
PURSUANT TO RULE 13a-14(a) AND 15d-14(a),
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Greg Kress, Chief Executive Officer of Shapeways Holdings, Inc., certify that:

1. I have reviewed this Annual Report on Form 10-K of Shapeways Holdings, Inc. (the “Registrant”) for the year ended December 31, 2022;

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 Annual 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 Annual 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)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) 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 is made known to us by others within those entities, particularly during the period in which this Annual Report is being prepared;

   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c. 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

   d. 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 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.

**Shapeways Holdings, Inc.**

Dated: March 30, 2023

By: /s/ Greg Kress
Greg Kress
Chief Executive Officer and Director
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF THE CHIEF FINANCIAL OFFICER
PURSUANT TO RULE 13a-14(a) AND 15d-14(a),
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Alberto Recchi, Chief Financial Officer of Shapeways Holdings, Inc., certify that:

1. I have reviewed this Annual Report on Form 10-K of Shapeways Holdings, Inc. (the “Registrant”) for the year ended December 31, 2022;

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 Annual 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 Annual 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)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) 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 is made known to us by others within those entities, particularly during the period in which this Annual Report is being prepared;

    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    c. 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

    d. 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 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.

**Shapeways Holdings, Inc.**

Dated: March 30, 2023

By: /s/ Alberto Recchi
Alberto Recchi
Chief Financial Officer and Director
(Principal Financial and Accounting Officer)

Exhibit 32.1

CERTIFICATION OF THE CHIEF EXECUTIVE OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report on Form 10-K for the period ended December 31, 2022 (the "Report") by Shapeways Holdings, Inc. (the "Registrant"), I, Greg Kress as Chief Executive Officer of the Registrant 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 the best of my knowledge:

1. the Report fully complies with the requirements of Section 13(a) or Section 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 Registrant.

**Shapeways Holdings, Inc.**

Dated: March 30, 2023

By: /s/ Greg Kress

Greg Kress
Chief Executive Officer and Director
*(Principal Executive Officer)*

Exhibit 32.2

CERTIFICATION OF THE CHIEF FINANCIAL OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report on Form 10-K for the period ended December 31, 2022 (the “Report”) by Shapeways Holdings, Inc. (the “Registrant”), I, Alberto Recchi as Chief Financial Officer of the Registrant 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 the best of my knowledge:

1. the Report fully complies with the requirements of Section 13(a) or Section 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 Registrant.

**Shapeways Holdings, Inc.**

Dated: March 30, 2023

By: /s/ Alberto Recchi
Alberto Recchi
Chief Financial Officer and Director
*(Principal Financial and Accounting Officer)*