

PEGASYSTEMS INC

FORM 10-K (Annual Report)

Filed 02/16/22 for the Period Ending 12/31/21

Address	ONE MAIN STREET CAMBRIDGE, MA, 02142-1531
Telephone	6173749600
CIK	0001013857
Symbol	PEGA
SIC Code	7374 - Services-Computer Processing and Data Preparation
Industry	Software
Sector	Technology
Fiscal Year	12/31

**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, 2021

OR

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

Commission File No. 1-11859

PEGASYSTEMS INC.

(Exact name of Registrant as specified in its charter)

Massachusetts

(State or other jurisdiction of incorporation or organization)

04-2787865

(IRS Employer Identification No.)

One Main Street, Cambridge, MA 02142

(Address of principal executive offices, including zip code)

(617) 374-9600

(Registrant's telephone number, including area code)

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

Title of each class
Common Stock, \$.01 par value per share

Trading symbol(s)
PEGA

Name of each exchange on which registered
NASDAQ Global Select Market

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

None

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

Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange 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 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 emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging 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 12b-2 of the Exchange Act). Yes No

The aggregate market value of the Registrant's common stock held by non-affiliates, based upon the closing price of the Registrant's common stock on the NASDAQ Global Select Market of \$139.19, on June 30, 2021 was approximately \$5.7 billion.

There were 81,631,845 shares of the Registrant's common stock, \$0.01 par value per share, outstanding on February 4, 2022.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's definitive proxy statement related to its 2022 annual meeting of stockholders to be filed subsequently are incorporated by reference into Part III of this report.

PEGASYSTEMS INC.

ANNUAL REPORT ON FORM 10-K

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PART I

FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K (“Annual Report”), including without limitation, “Item 1. Business,” “Item 1A. Risk Factors,” “Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities,” and “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations,” along with other reports that we have filed with the Securities and Exchange Commission (“SEC”), external documents, and oral presentations, contains or incorporates forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995.

Words such as expects, anticipates, intends, plans, believes, will, could, should, estimates, may, targets, strategies, projects, forecasts, guidance, likely, and usually, or variations of such words and other similar expressions identify forward-looking statements, which are based on current expectations and assumptions.

Forward-looking statements deal with future events and are subject to risks and uncertainties that are difficult to predict, including, but not limited to:

- our future financial performance and business plans;
- the adequacy of our liquidity and capital resources;
- the continued payment of our quarterly dividends;
- the timing of revenue recognition;
- management of our transition to a more subscription-based business model;
- variation in demand for our products and services, including among clients in the public sector;
- reliance on key personnel;
- the impact of actual or threatened public health emergencies, such as the Coronavirus (“COVID-19”);
- reliance on third-party service providers, including hosting providers;
- compliance with our debt obligations and covenants;
- the potential impact of our convertible senior notes and Capped Call Transactions;
- the relocation of our corporate headquarters;
- the continued uncertainties in the global economy;
- foreign currency exchange rates;
- the potential legal and financial liabilities and damage to our reputation due to cyber-attacks;
- security breaches and security flaws;
- our ability to protect our intellectual property rights, costs associated with defending such rights, as well as intellectual property rights claims and other related claims by third parties;
- our client retention rate; and
- management of our growth.

These risks and others that may cause actual results to differ materially from those expressed in such forward-looking statements are described further in “Item 1A. Risk Factors” of this Annual Report and other filings we make with the SEC.

Except as required by applicable law, we do not undertake and expressly disclaim any obligation to update or revise these forward-looking statements publicly, whether due to new information, future events, or otherwise. The forward-looking statements in this Annual Report represent our views as of February 16, 2022.

ITEM 1. BUSINESS

Our Business

We develop, market, license, host, and support enterprise software that helps organizations simplify business complexity. Our powerful low-code platform for workflow automation and AI-powered decisioning enables the world's leading brands and government agencies to hyper-personalize customer experiences, streamline customer service, and automate mission-critical business processes and workflows. With Pega, our clients can leverage our intelligent technology and scalable architecture to accelerate their digital transformation. Our client success teams, world-class partners, and clients themselves leverage our Pega Express™ methodology to design and deploy mission-critical applications quickly and collaboratively.

To grow our business, we intend to:

- increase market share by developing and delivering a low-code platform for workflow automation and AI-powered decisioning for buyers in marketing, sales, service, operations, and IT that can work together seamlessly with maximum competitive differentiation;
- deepen and expand our relationships with existing clients;
- establish relationships with new clients; and
- continue to scale our marketing efforts to support the way today's buyers discover, evaluate, and choose products and services.

Whether we are successful depends, in part, on our ability to:

- execute our marketing and sales strategies;
- appropriately manage our expenses as we grow our organization;
- effectively develop new products and enhance our existing products; and
- incorporate acquired technologies into our solutions and unified Pega Platform.

Subscription transition

We are transitioning our business to sell software primarily through subscription arrangements. Until we fully complete our subscription transition, which we expect will occur in 2023, our revenue and operating cash flow growth may be impacted. Operating performance and the actual mix of revenue and new arrangements in each period can fluctuate based on client preferences for our perpetual and subscription offerings.

See risk factor "If we fail to manage our transition to a more subscription-based business model successfully, our results of operations and/or cash flows could be negatively impacted" in Item 1A of this Annual Report for additional information.

Our Products

Pega Infinity™

Software built on a Center-out™ Business Architecture



Pega Infinity™, the latest version of our software portfolio, helps connect enterprises to their customers in real-time across channels, streamline business operations, and adapt to meet changing requirements.

Our applications and platform intersect with and encompass several software markets, including:

- Customer Engagement, including Customer Relationship Management (“CRM”);
- Digital Process Automation (“DPA”), including Business Process Management (“BPM”), Workflow, and Dynamic Case Management (“DCM”);
- Low-code application development platforms (“LCAP”), including Multi-experience Development Platforms (“MXDP”);
- Robotic Process Automation (“RPA”);
- Business Rules Management Systems (“BRMS”);
- Decision Management, including predictive and adaptive analytics; and
- the Vertical-Specific Software (“VSS”) market of industry solutions and packaged applications.

1:1 Customer Engagement

Our omnichannel customer engagement applications are designed to maximize the lifetime value of customers and help reduce the costs of serving customers while ensuring a consistent, unified, and personalized customer experience. At the center of our customer engagement applications is the Pega Customer Decision Hub™, our real-time, AI-powered decision engine, which can predict a customer’s behavior and recommend the “next best action” to take across channels in real-time. It is designed to enable enterprises to improve customer acquisition and experience across inbound, outbound, and paid media channels. It incorporates Artificial Intelligence (“AI”) in the form of predictive and machine-learning analytics, as well as business rules, and executes these decisions in real-time to evaluate the context of each customer interaction and dynamically deliver the most relevant action, offer, content, and channel.

Customer Service

The Pega Customer Service™ application simplifies customer service. It is designed to anticipate customer needs, connect customers to the right people and systems, automate or intelligently guide customer interactions, rapidly and continuously evolve the customer service experience, and allow enterprises to deliver consistent interactions across channels and improve employee productivity. The application consists of a contact center desktop, case management for customer service, chat, knowledge management, mobile field service, omnichannel self-service, AI-powered virtual assistants, and industry-specific processes (“Microjourney™”) and data models. For clients who want to extend intelligence and automation into the early stages of the customer journey, Pega Sales Automation™ automates and manages the entire sales process, from prospecting to product fulfillment. It allows enterprises to capture best practices and leverage AI to guide sales teams through the sales and customer onboarding processes.

Intelligent Automation

Pega Platform, our software for Intelligent Automation, boosts the efficiency of our clients’ processes and workflows. This technology allows organizations to take an end-to-end approach to transformation by using intelligence and design thinking to streamline processes and create better experiences for their customers and employees. Intelligent automation goes beyond traditional Business Process Management (BPM) to unify technologies such as Robotic Process Automation (“RPA”) and AI and enable organization-wide digital transformation. With its Intelligent Automation capabilities, the Pega Platform allows clients to break down silos, improve customer-centricity, add agility to legacy technology, and provide end-to-end automation to support the needs of customers and employees.

Our Capabilities

We drive better business outcomes for our clients in three ways:

- *1:1 Customer Engagement*: we enable clients to hyper-personalize interactions with their customers using our AI-powered decision engine, resulting in higher customer lifetime value.
- *Customer Service*: we enable clients to streamline customer service and deliver better service experiences for their customers and employees, resulting in higher customer satisfaction and loyalty and reduced cost.
- *Intelligent Automation*: we enable clients to automate mission-critical workflows, resulting in improved operational efficiency, faster time to value, and lower cost.

We deliver our solution through our Center-out Business™ Architecture®, enabling clients to transcend channels and internal data silos to achieve quick wins and long-term transformation. This approach insulates business logic from back-end and front-end complexity, delivering consistent experiences to customers and agility to the business.

The key aspects of this architecture are:

Centrally-managed intelligence

Pega’s centrally-managed intelligence ensures AI and business rules operate across all channels. Applications built on Pega’s low-code Platform leverage predictive and adaptive analytics to deliver personalized customer experiences and maximize business objectives. For example, Pega Customer Decision Hub, a centralized, always-on “customer brain,” unleashes the power of predictive analytics, machine learning, and real-time decisioning across our clients’ data, systems, and touchpoints - orchestrating engagement across customer interaction channels.

End-to-end automation aligned with business outcomes

We combine human-assisted robotic desktop automation and unattended robotic process automation with our unified workflow and case management capabilities. This combination provides our platform and applications the differentiated ability to automate customer-facing and back office operational processes from “end to end,” connecting across organizational and system silos to connect customers and employees to outcomes seamlessly and easily.

Consistent omnichannel experiences

With centrally defined business and process logic, Pega provides dynamic, open APIs to keep front-end channels and business logic aligned for consistent customer experiences. By leveraging innovative user interface (UI) technology, Pega-powered processes and decisions can be easily embedded into existing front-ends or used as the basis for new employee-facing applications.

Insulation of back-end complexity

Pega’s architecture insulates case and decision logic from the complexity of back-end systems. Our data virtualization automatically pulls in needed data in a common structure, regardless of source. This capability gives clients the agility to build new experiences on existing systems, modernizing legacy systems without breaking existing processes.

A layered approach to managing variation

Pega’s Situational Layer Cake organizes logic into layers that map to the unique dimensions of a client’s business – customer types, lines of business, geographies, etc. This layered approach lets organizations manage variations of their businesses without duplicating logic. This capability allows initial deployments into a single department or region to seamlessly scale to manage the complexity of a global, multi-line enterprise.

In addition to our Center-out Business Architecture, Pega technology has been designed to be deployed rapidly, be changed easily, and scale across changing architecture needs.

Pega Express™ Methodology and low-code

Our solutions are designed to quickly improve targeted customer outcomes with out-of-the-box functionality that connects enterprise data and systems to customer experience channels. From there, organizations can scale one customer experience at a time to realize greater value while delivering increasingly consistent and personalized customer experiences. We prescribe a “Microjourney” approach to delivery that breaks customer journeys into discrete processes that drive meaningful outcomes, such as “inquiring about a bill” or “updating an insurance policy,” allowing us to combine design-thinking and out-of-the-box functionality to deliver rapid results and ensure the ability to enhance applications in the future.

Our approach leverages low-code to improve business and IT collaboration and bypass the error-prone and time-consuming process of manually translating requirements into code. Users design software in low-code visual models that reflect the needs of the business. The software application is created and optimized automatically and directly from the model, helping to close the costly gap between vision and execution. Changes to the code are made by altering the model, and application documentation is generated directly from the model.

Cloud choice

Pega Cloud® allows clients to develop, test, and deploy, on an accelerated basis, our applications and the Pega Platform using a secure, flexible internet-based infrastructure, minimizing cost while focusing on core revenue-generating competencies.

Clients can also manage the Pega deployment themselves using the cloud architecture they prefer. This multi-cloud approach of both Pega Cloud and client-managed cloud gives our clients the ability to select and change, as needed, the best cloud architecture for the security, data access, speed-to-market, and budget requirements of each application they deploy.

Our Services and Support

We offer services and support through our Global Client Success, Global Service Assurance, Global Client Support, and Pega Academy™ groups. We also use third-party contractors to assist us in providing these services.

- *Global Client Success* – Global Client Success guides our clients to maximize their investment in our technology and realize the business outcomes they are targeting. Within Global Client Success, our Client Innovation team helps clients transform and prototype their customer journeys through our Pega Catalyst™ offering, our Success team ensures our clients receive the maximum business value from their Pega investments, and our Pega Consulting team provides planning, design, implementation, and advisory and assurance services.
- *Global Service Assurance* – Global Service Assurance addresses risks to client success because of technical concerns. By providing technical staff dedicated to client success, we reduce the time to resolve technical issues, eliminate lengthy deliberations of technical resource logistics, and increase clients’ confidence in our technology and client service.
- *Global Client Support* – Global Client Support provides technical support for our products and Pega Cloud services. Support services include cloud service reliability management, online support community management, self-service knowledge, proactive problem prevention through information and knowledge sharing, problem tracking, prioritization, escalation, diagnosis, and resolution.

- *Pega Academy* – The success of our sales strategy for repeat sales to target clients depends on enablement and ecosystem engagement. We have increased our ability to train partners and clients to implement our technology and made it easier for individuals to stay current as it evolves. We offer instructor-led and online training to our employees, clients, and partners. We have also partnered with universities to provide our courseware as part of student curriculum to expand our ecosystem. Engagement is an important part of our strategy to create a broad ecosystem passionate about Pega technology.

Our Partners

We collaborate with global systems integrators and technology consulting firms that provide consulting services to our clients, as well as Independent Software Vendors (“ISVs”) and technology partners that extend clients’ investments with integrated solutions. In addition, Authorized Training Partners (“ATPs”) support Pega customers in local languages, while our Workforce Development Partners let clients outsource their recruiting. Strategic partnerships with these firms are important to our sales efforts because they influence buying decisions, identify sales opportunities, and complement our software with their domain expertise, solutions, and services capabilities. These partners may deliver strategic business planning, consulting, project management, training, and implementation services to our clients.

Our partners include well-respected major firms, such as Accenture PLC, Amazon.com, Inc., Capgemini SA, Coforge, Cognizant Technology Solutions Corporation, EY, HCL Infosys, Merkle, PwC, Tata Consultancy Services Limited, Tech Mahindra Limited, Virtusa Corporation, and Wipro Limited.

Our Markets

Target Clients

Our target clients are Global 3000 organizations and government agencies that require solutions to distinguish themselves in the markets they serve. Our solutions achieve and facilitate differentiation by increasing business agility, driving growth, improving productivity, attracting and retaining customers, and reducing risk. Along with our partners, we deliver solutions tailored to our clients’ specific industry needs.

Our clients represent many industries, including:

- *Financial services* – Financial services organizations rely on software to market, onboard, cross-sell, retain, and service their customers, as well as automate the operations that support these customer interactions. Our intelligent automation, customer service, account onboarding, Know Your Customer (“KYC”), payment dispute and exception management, collections, and next best action solutions allow clients to improve the efficiency of their operations and provide better service to their customers.
- *Communications and media* – Communications and media organizations need to address high levels of customer churn, growing pressure to increase revenue, and an ability to respond quickly to changing market conditions. Our solutions enable organizations to reshape how they engage with customers and increase customer lifetime value throughout the customer lifecycle by delivering personalized customer experiences and intelligent workflows. Our solutions are designed to solve the most critical business issues, including increasing cross-sell/upsell, improving customer service effectiveness, and automating work.
- *Government* – Government agencies need to modernize legacy systems and processes to meet the growing demands for improved constituent service, lower costs, reduced fraud, and greater transparency. Our solutions deliver advanced capabilities to help streamline operations and optimize service delivery through an agile, low-risk approach.
- *Life sciences and healthcare* – Life sciences and healthcare organizations are looking for solutions to improve patient and clinician engagement, as well as deliver personalized products, services, and care while reducing costs, automating processes, increasing operational efficiency, and integrating front and back-offices. Our customer engagement and intelligent automation solutions allow life science organizations to accelerate the research and development and product launch process, digitize clinical trials, transform operations, and provide regulatory transparency. Our solutions allow healthcare clients to address the sales, service, care, operational, financial, administrative, regulatory requirements of healthcare consumerism, reform, and transformation to healthcare services organizations.
- *Insurance* – Insurance companies, whether competing globally or nationally, need software to automate policyholder acquisition, cross-sell/upsell, underwriting, claims, policy service, and retention activities across operations and distribution channels. Insurers are also becoming increasingly sensitive to improving customer service and overall customer experience. Our solutions for insurance carriers are designed to help increase business value by delivering customer-focused experiences and personalized interactions that help drive higher sales, lower expense ratios, and mitigate risk.
- *Consumer services* – Consumer services organizations provide services to a range of consumers in industries such as transportation, utilities, internet providers, retail, hospitality, and entertainment. Our 1:1 customer engagement, customer service, and intelligent automation solutions help these organizations personalize their customer engagement and automate work to drive revenue through cross-sell/upsell and increase service efficiency while increasing customer satisfaction.
- *Manufacturing and high tech* – Manufacturers streamline their complex global operations and create more value for their customers, dealers, distributors, and suppliers while directly managing the performance, uptime, and impact of their connected products, equipment, and experiences. Our manufacturing solutions reduce the complexity of enterprise operations in domains like supply chain, order management, quality management, shared services, customer service, and aftermarket services, including warranty management and captive finance, while minimizing the constraints on digital transformation caused by legacy systems.

Competition

The markets for our offerings are intensely competitive, rapidly changing, and highly fragmented as current competitors expand their product offerings and new companies enter the market.

We compete in the CRM, including marketing, sales, and customer service, and DPA, including BPM, case management, decision management, robotic automation, co-browsing, social engagement, and mobile application development platform software markets, as well as in markets for the vertical applications we provide (e.g., Pega Know Your Customer™ for Financial Services, Pega Care Management™).

We also compete with clients' internal information systems departments that seek to modify their existing systems or develop their own proprietary systems and professional service organizations that develop their own products or create custom software in conjunction with rendering consulting services.

Competitors vary in size, scope, and breadth of the products and services they offer and include some of the world's largest companies, including Salesforce.com, Microsoft Corporation, Oracle Corporation, SAP SE, ServiceNow, and International Business Machines Corporation ("IBM").

We have been most successful in competing for clients whose businesses are characterized by a high degree of change, complexity, or regulation.

We believe we are competitively differentiated from our competitors because our unified Pega Platform is designed to allow client business and IT staff, using a single, intuitive user interface, to build and evolve enterprise applications in a fraction of the time it would take with disjointed architectures and tools offered by many of our competitors. In addition, our applications, built on the Pega Platform, provide the same level of flexibility and ability to adapt to our clients' needs as the Pega Platform. We believe we compete favorably due to our expertise in our target industries and our long-standing client relationships. We believe we compete less favorably on some of the above factors against our larger competitors, many of which have greater sales, marketing, and financial resources, more extensive geographical presence, and greater name recognition. In addition, we may be at a competitive disadvantage against our larger competitors with respect to our ability to provide expertise outside our target industries.

See risk factor "The market for our offerings is intensely and increasingly competitive, rapidly changing, and fragmented" in Item 1A of this Annual Report for additional information.

Intellectual Property

We rely primarily on a combination of copyright, patent, trademark, and trade secrets laws, as well as confidentiality and intellectual property agreements to protect our proprietary rights. We have obtained patents relating to our system architecture and products in strategic global markets. We enter into confidentiality, intellectual property ownership, and license agreements with our employees, partners, clients, and other third parties. To protect our proprietary rights, we also control access to and ownership of software, services, documentation, and other information.

Sales and Marketing

We encourage our direct sales force and outside partners to co-market, pursue joint sales initiatives, and drive broader adoption of our technology, helping us grow our business more efficiently and focus our resources on continued innovation and enhancement of our solutions. In addition, strategic partnerships with management consulting firms and major systems integrators are important to our sales efforts because they influence buying decisions, help us identify sales opportunities, and complement our software and services with their domain expertise and consulting capabilities. We also partner with technology providers and application developers.

To support our sales efforts, we conduct a broad range of marketing programs, including awareness advertising, client and industry-targeted solution campaigns, trade shows, including our PegaWorld® iNspire user conference, solution seminars and webinars, industry analyst and press relations, web and digital marketing, community development, social media presence, and other direct and indirect marketing efforts. In addition, our consulting employees, business partners, and other third parties also conduct joint and separate marketing campaigns that generate sales leads.

Research and Development

Our research and development organization is responsible for product architecture, core technology development, product testing, and quality assurance. Our product development priority is to continue expanding our technology's capabilities and ensure we deliver superior cloud-native solutions. We intend to maintain and extend the support of our existing applications, and we may choose to invest in additional strategic applications that incorporate the latest business innovations. We also intend to maintain and extend the support of popular hardware platforms, operating systems, databases, and connectivity options to facilitate easy and rapid deployment in diverse IT infrastructures. Our goal with all products is to enhance product capabilities, implementation ease, long-term flexibility, and improve client service.

Backlog

As of December 31, 2021, we expected to recognize approximately \$1.3 billion in revenue from backlog on existing contracts in future periods. See "Remaining performance obligations ("Backlog")" in Item 7 of this Annual Report for additional information.

Our People

As of January 31, 2022, we had 6,133 employees, of which 2,537 were based in the Americas, 1,422 were based in Europe, 1,826 were based in India, and 348 were based elsewhere in Asia-Pacific.

As a high technology company, our employees are critical to our success. We strive to be an employer of choice that can attract and retain exceptional talent. We aim to create a corporate culture that is equitable, inclusive, and diverse. We believe that encouraging employee development will help achieve our goal of developing, expanding, and retaining our workforce to support our business.

We build our corporate culture through a variety of initiatives, including global inclusion and diversity, employee engagement, pay equity, and employee development.

Global Inclusion and Diversity

An inclusive and diverse culture contributes to our ability to deliver innovative products and services, which is critical to our success. Our commitment to inclusion and diversity begins with a highly skilled and diverse board and includes our commitment to educate both managers and individual contributors about our corporate values. We have made significant investments in furthering our culture of inclusion, including hiring a Global Leader of Inclusion and Diversity in 2020 and a Diversity Talent Attraction Partner in 2021. We expanded our diversity recruiting efforts and delivered inclusivity workshops to managers and individual contributors at all levels. We currently sponsor formal employee resource groups for the following communities: women, veterans, Black, LGBTQIA+, Asian, Latinx, and persons with disabilities.

Employee Engagement, Health, and Well-Being

Our efforts to recruit and retain diverse and passionate employees include providing competitive rewards packages and ensuring active communication throughout the Company. We regularly solicit and collect feedback to better understand and improve our employee experience and identify opportunities to strengthen our corporate culture. In 2021, in addition to our employee survey and continuous feedback tools, we hosted check-in chats with our leadership team to directly address our employees' questions and constructive feedback. We are committed to creating an environment that supports our employees' health and overall well-being, focusing on physical, emotional, financial, and personal wellness. PegaUp!, our employee wellness program, includes awareness campaigns, fitness classes, guided meditation, as well as health, wellness, and financial seminars.

Pay Equity

We compensate our employees for what they do and how they do it, regardless of their gender, race, or other personal characteristics. To deliver that commitment, we benchmark and set pay ranges based on market data and consider individual factors, such as an employee's role and experience, job location, and job performance. We also regularly review our compensation practices, both in terms of our overall workforce and individual employees, to ensure our pay is fair and equitable.

Employee Development

Employee development underpins our efforts to execute our strategy and continue creating and selling innovative products and services. We continually invest in our employees' career growth and provide employees with a wide range of development opportunities, including formal and informal learning, mentoring, and coaching. Pega Academy helps employees, clients, and partners gain and advance Pega software skills more rapidly. To ensure our business's long-term continuity, we actively manage talent development to fill the roles most critical to our success. To support our current and future leaders' development, Pega offers five programs addressing the development of people managers and leaders in a cohort format comprised of all functions and geographies. We also provide educational resources and classes, career training, and education reimbursement programs. In 2021, more than 4,900 of our employees participated in a formal education program.

Corporate Information

Pegasystems Inc. was incorporated in Massachusetts in 1983. Our stock is traded on the NASDAQ Global Select Market under the symbol "PEGA." Our website is located at www.pega.com, and our investor relations website is located at www.pega.com/about/investors.

Available Information

We make available our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to these reports, free of charge, through our website as soon as reasonably practicable after we electronically file such material with or furnish such material to the SEC. We also make available on our website reports filed by our executive officers and directors on Forms 3, 4, and 5 regarding their ownership of our securities. Our Code of Conduct is available on our website in the "Governance" section.

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

ITEM 1A. RISK FACTORS

The risks and uncertainties described below are not the only ones we face. Events that we do not currently anticipate, or that we currently expect to be immaterial, may also affect our results of operations, cash flows, and financial condition.

Risks Related to Our Business and Industry

If we fail to manage our transition to a more subscription-based business model successfully, our results of operations and/or cash flows could be negatively impacted.

We are transitioning to a more subscription-based business model, which impacts our revenue and cash flow. The subscription model prices and delivers our software differently than a perpetual license model. These changes reflect a significant shift from perpetual license sales in favor of providing our clients the right to access our software in a hosted environment or use downloaded software for a specified subscription period. The shift of our clients' preference to subscription-based offerings requires a scalable organization, and a considerable investment of technical, financial, legal, managerial, and sales resources.

Market acceptance of our subscription-based offerings will depend on our ability to continue to:

- innovate and include new functionality and improve the usability of our products in a manner that addresses our clients' needs and requirements; and
- optimally price our products considering marketplace conditions, competition, our costs, and client demand.

Our cloud-based subscription model also requires that we rely on third parties to host our software for our clients. We incur significant recurring third-party hosting expenses to deliver our Pega Cloud offering that we do not incur for our perpetual and term license products. These expenses may cause the gross margin we realize from our Pega Cloud sales to be lower than the gross margin we realize from our perpetual and term license products. If we are unable to meet these challenges effectively, our operating results and financial condition could be materially adversely affected.

The transition to a subscription-based business model gives rise to several risks, including:

- our revenues and cash flows may fluctuate more than anticipated in the near term;
- if the increased demand for our offerings does not continue, we could experience decreased profitability or losses and reduced or negative cash flow because of our continued significant investments in our Pega Cloud offering;
- if new or current clients desire only perpetual licenses, our subscription sales may trail our expectations;
- we may be unsuccessful in maintaining or implementing our target pricing or new pricing models, product adoption, and projected renewal rates, or we may select a target price or new pricing model that is not optimal and could negatively affect our sales or earnings;
- a failure to achieve the anticipated level of subscriptions may cause our revenue to decline and our business to be materially adversely affected on an ongoing basis due to lower-than-expected recurring revenue; and
- we may incur sales compensation costs at a higher than forecasted rate if the pace of our subscription transition is faster than anticipated.

The metrics our investors and we use to monitor our business model transition may evolve during the transition as significant trends emerge. Therefore, it may be difficult to accurately determine the impact of this transition on our business on a contemporaneous basis or to communicate the appropriate metrics to our investors clearly.

We may not achieve the key elements of our strategy and grow our business as anticipated.

We currently intend to grow our business by pursuing strategic initiatives. Key elements of our strategy include increasing our market share by developing and delivering robust solutions that can work together seamlessly with maximum differentiation and minimal customization, offering versatility in the Pega Platform and application deployment and licensing options to meet the specific needs of our clients, growing our network of partner alliances, and developing the talent and organizational structure capable of supporting our revenue and earnings growth targets. We may not achieve one or more of our key initiatives. Our success depends on our ability to manage our expenses as we grow our organization appropriately, successfully execute our marketing and sales strategies, successfully incorporate acquired technologies into our unified Pega Platform, and develop new products or product enhancements. If we are not able to execute these actions, our business may not grow as we anticipate, and our operating results and financial condition could be materially adversely affected.

We depend on key personnel, including our Chief Executive Officer, and must attract and retain qualified personnel in the future.

Our business is dependent on key, highly skilled technical, managerial, consulting, sales, and marketing personnel, including our Chief Executive Officer, who is also our founder and largest stockholder.

The loss of key personnel could be disruptive to our operations and materially adversely affect our financial performance. We do not carry, nor do we currently intend to obtain, significant key-person life insurance on officers or other employees. Our success will depend on attracting and retaining qualified personnel and, as needed, rapidly replacing and developing new management. The number of potential employees who have the extensive knowledge needed to develop, sell, and maintain our offerings is limited, and competition for their services is intense. There can be no guarantee that we will be able to attract and retain such personnel. If we are unable to do so, our business, operating results, and financial condition could be materially adversely affected. We have from time to time in the past experienced, and we expect to continue to experience in the future, difficulty in hiring and difficulty in retaining highly skilled employees with appropriate qualifications.

In addition, we believe our corporate culture has been a key contributor to our success to date. As we continue to grow and expand globally and navigate shifting workforce priorities, including an extended period of time in which our employees are working from their home locations or an increase in remote workers, we may find it difficult to maintain important aspects of our corporate culture, which could negatively affect our ability to retain and recruit personnel who are essential to our future success.

The timing of our license and Pega Cloud revenue is difficult to predict, which may cause our operating results to vary considerably.

A change in the size or volume of license and Pega Cloud arrangements, or a change in the mix between perpetual licenses, term licenses, and Pega Cloud arrangements, can cause our revenues and cash flows to fluctuate materially between periods. Revenue from Pega Cloud and maintenance arrangements is typically recognized over the contract term, while revenue from license sales is recognized when the license rights become effective, typically upfront. Subscription license and services are generally billed and collected over the contract term, while perpetual license arrangements usually are billed and collected upfront when the license rights become effective.

Factors that may influence the predictability of our license and Pega Cloud revenue include:

- changes in clients' budgets and decision-making processes that could affect both the timing and size of transactions;
- the timing of the execution of an agreement or our ability to deliver the products or services;
- changes in our business model; and
- our ability to execute our marketing and sales strategies.

We budget for our selling and marketing, product development, and other expenses based upon anticipated future bookings and revenue. If the timing or amount of revenue fails to meet our expectations, our financial performance is likely to be materially adversely affected because only a small portion of our expenses vary with revenue. Other factors that may cause our operating results to vary include changes in foreign currency exchange rates, income tax effects, and the impact of new accounting pronouncements.

As a result, period-to-period comparisons of our operating results are not necessarily meaningful and should not be relied upon to predict future performance. If our revenues and operating results do not meet the expectations of our investors or securities analysts or fall below guidance we may provide to the market, or due to other factors discussed elsewhere in this section, the price of our common stock may decline.

The number and value of license and Pega Cloud arrangements has been increasing, and we may not be able to sustain this growth unless our partners and we can provide sufficient high-quality consulting, training, and maintenance resources to enable our clients to realize significant business value from our software.

Our clients typically request consulting and training to assist them in implementing our license and Pega Cloud offerings. Our clients also usually purchase maintenance on our perpetual and term licenses. As a result, an increase in the number and value of license and Pega Cloud arrangements is likely to increase demand for consulting, training, and maintenance related to our offerings. Given that the number and value of our license and Pega Cloud arrangements has been growing, we will need to provide our clients with more consulting, training, and maintenance to enable them to realize significant business value from our software. We have been increasing our partner and client enablement through training to create an expanded ecosystem of people that are skilled in the implementation of our solutions. However, if our partners and we are unable to provide sufficient high-quality consulting, training, and maintenance resources, our clients may not realize sufficient business value from our offerings to justify follow-on sales, which could impact our future financial performance. Further, some of our client engagements have high public visibility. If our partners or we encounter problems in helping these clients implement our license and Pega Cloud offerings or if there is negative publicity regarding these engagements (even if unrelated to our services or offerings), our reputation could be harmed and our future financial performance could be negatively impacted. Finally, the investments required to meet the increased demand for our consulting services could strain our ability to deliver our consulting engagements at desired profitability, thereby impacting our overall profitability and financial results.

We may not be able to maintain our retention rate for our subscription clients.

An increasing percentage of our revenue has been derived from our subscription offerings. Our clients have no obligation to renew their subscriptions, although historically, most have elected to do so. If our retention rate for those clients decreases our business, operating results, and financial condition could be materially affected.

We are investing heavily in sales and marketing, research and development, and support resources in anticipation of continued growth in license and Pega Cloud arrangements, and we may experience decreased profitability or losses and reduced or negative cash flow if we do not continue to increase the value of our license and Pega Cloud arrangements to balance our growth in expenses.

We have been expanding our sales and marketing capacity to meet the increasing demand for our software and to broaden our market coverage by hiring additional sales and marketing personnel. We anticipate that we will need to provide our clients with more maintenance support because of this increase in demand and have been hiring additional personnel in this area. We continue to invest significantly in research and development to expand and improve the Pega Platform and applications. These investments have resulted in increased fixed costs that do not vary with the level of revenue. If the increased demand for our offerings does not continue, we could experience decreased profitability or losses and reduced or negative cash flow because of these increased fixed costs. Conversely, if we are unable to hire sales and marketing personnel to meet future demand or research and development personnel to enhance our current products or develop new products, we may not be able to achieve our sales and profitability targets.

We face risks from operations and clients based outside of the United States.

We market our products and services to clients based outside of the U.S., which represent 42% of our revenue over the last three years. We have established offices in the Americas, Europe, Asia, and Australia. We believe that growth will necessitate expanded international operations, resulting in increased managerial attention and costs. We anticipate hiring additional personnel to accommodate increased international demand, and we may also enter into agreements with local distributors, representatives, or resellers. If we are unable to do one or more of these things in a timely and effective manner, the growth, if any, of our international operations may be restricted, and our business, operating results, and financial condition could be materially adversely affected.

Additional risks inherent in our international business activities include:

- laws and business practices favoring local competitors;
- compliance with multiple, conflicting, and changing governmental laws and regulations, including employment, tax, privacy, and data privacy and protection;
- increased tariffs and other trade barriers;
- the costs of localizing offerings for local markets, including translation into foreign languages and associated expenses;
- longer payment cycles and credit and collectability risk on our foreign trade receivables;
- difficulties in enforcing contractual and intellectual property rights;
- heightened fraud and bribery risks;
- treatment of revenue from international sources and changes to tax codes, including being subject to foreign tax laws, being liable for paying withholding, income or other taxes in foreign jurisdictions, and other potentially adverse tax consequences (including restrictions on repatriating earnings and the threat of “double taxation”);
- management of our international operations, including increased administrative and compliance expenses;
- heightened risks of political and economic instability; and
- foreign currency exchange rate fluctuations and controls.

There can be no assurance that one or more of these factors will not have a material adverse effect on our international operations and, consequently, on our business, operating results, and financial condition.

We rely on third-party relationships.

We have a number of relationships with third parties that are significant to our sales, marketing, support, and product development efforts, including hosting facilities for our Pega Cloud offering. We rely on software and hardware vendors, large system integrators, and technology consulting firms to supply marketing and sales opportunities for our direct sales force and to strengthen our offerings using industry-standard tools and utilities. We also have relationships with third parties that distribute our products. There can be no assurance that these companies, many of which have far greater financial and marketing resources than us, will not develop or market offerings that compete with ours in the future or will not otherwise end or limit their relationships with us. Further, the use of third-party hosting facilities requires us to rely on the functionality and availability of the third parties’ services, as well as their data security, which despite our due diligence, may be or become inadequate.

We are exposed to fluctuations in foreign currency exchange rates that could negatively impact our financial results and cash flows.

Because a significant portion of our business is conducted outside of the U.S., we face exposure to movements in foreign currency exchange rates. Our international sales are usually denominated in foreign currencies. The operating expenses of our foreign operations are also primarily denominated in foreign currencies, which partially offset our foreign currency exposure on our international sales. Our results of operations and cash flows are subject to fluctuations due to changes in foreign currency exchange rates, particularly changes in the U.S. dollar, the Euro, and the Australian dollar relative to the British Pound. These exposures may change over time as business practices evolve.

We have historically used but do not currently use foreign currency forward contracts to hedge our exposure to changes in foreign currency exchange rates. We may enter into hedging contracts again in the future if we believe it is appropriate.

Our realized gain or loss for foreign currency fluctuations will depend on the size and type of cross-currency exposures that we enter into, the currency exchange rates associated with these exposures and changes in those rates, whether we have entered forward contracts to offset these exposures, and other factors. All these factors could materially impact our operating results, financial condition, and cash flows.

Our consulting revenue is significantly dependent upon our consulting personnel implementing new license and Pega Cloud arrangements.

We derive a substantial portion of our consulting revenue from implementations of new license and Pega Cloud arrangements managed by our consulting personnel and consulting for partner and client-led implementation efforts. Our strategy is to support and encourage partner-led and client-led implementations to increase the breadth, capability, and depth of market capacity to deliver implementation services to our clients. Accordingly, if our consulting personnel's involvement in future implementations decreases, this could materially adversely affect our consulting revenue.

We frequently enter into a series of license or Pega Cloud arrangements that are each focused on a specific purpose or area of operations. If we are not successful in obtaining follow-on business from these clients, our financial performance could be materially adversely affected.

Once a client has realized the value of our software, we work with the client to identify opportunities for follow-on sales. However, we may not be successful in demonstrating this value for several reasons, including the performance of our products, the quality of the services and support provided by our partners and us, or external factors. Also, some of our smaller clients may have limited additional sales opportunities available. We may not obtain follow-on sales, or the follow-on sales may be delayed, and our future revenue could be limited. This could lower the total value of all transactions, and materially adversely affect our financial performance.

We will need to acquire or develop new products, evolve existing ones, address any defects or errors, and adapt to technology changes.

Technical developments, client requirements, programming languages, industry standards, and regulatory requirements frequently change in the markets in which we operate. The introduction of third-party solutions embodying new technologies and the emergence of new industry standards could make our existing and future software solutions obsolete and unmarketable. As a result, our success will depend upon our ability to enhance current products, address any product defects or errors, acquire or develop and introduce new products that meet client needs, keep pace with technology and regulatory changes, respond to competitive products, and achieve market acceptance. Product development requires substantial investments for research, refinement, and testing. We may not have sufficient resources to make the necessary product development investments. We may experience technical or other difficulties that will delay or prevent the successful development, introduction, or implementation of new or enhanced products. We may also experience technical or other challenges in the integration of acquired technologies into our existing platform and applications. Inability to introduce or implement new or enhanced products in a timely manner could result in loss of market share if competitors are able to provide solutions to meet client needs before we do, give rise to unanticipated expenses related to further development or modification of acquired technologies, and materially adversely affect our financial performance. We may also fail to anticipate adequately and prepare for the development of new markets and applications for our technology and the commercialization of emerging technologies such as blockchain and thereby fail to take advantage of new market opportunities or fall behind early movers in those markets.

The market for our offerings is intensely and increasingly competitive, rapidly changing, and fragmented.

We encounter significant competition from:

- customer engagement vendors, including Customer Relationship Management application vendors;
- Digital Process Automation vendors and platforms, including Business Process Management vendors, low-code application development platforms, and service-oriented architecture middleware vendors;
- case management vendors;
- decision management, data science, and Artificial Intelligence vendors, as well as vendors of solutions that leverage decision making and data science in managing customer relationships and marketing;
- robotic automation and workforce intelligence software providers;
- companies that provide application-specific software for financial services, healthcare, insurance, and other specific markets;
- mobile application platform vendors;
- co-browsing software providers;
- social listening, text analytics, and natural language processing vendors;
- commercialized open-source vendors;
- professional services organizations that develop their own products or create custom software in conjunction with rendering consulting services; and
- clients' in-house information technology departments, which may seek to modify their existing systems or develop their own proprietary systems.

Many of our competitors, such as Salesforce.com, Microsoft Corporation, Oracle Corporation, SAP SE, ServiceNow, and International Business Machines Corporation (“IBM”), have far greater resources than we do and may be able to respond more quickly and efficiently to new or emerging technologies, programming languages or standards, or changes in client requirements or preferences. Competitors may also be able to devote greater managerial and financial resources to develop, promote, and distribute products and to provide related consulting and training services.

We believe the principal competitive factors within our market include:

- product adaptability, scalability, functionality, and performance;
- proven success in delivering cost-savings and efficiency improvements;
- proven success in enabling improved customer interactions;
- ease-of-use for developers, business units, and end-users;
- timely development and introduction of new products and product enhancements;
- establishment of a significant base of reference clients;
- ability to integrate with other products and technologies;
- customer service and support;
- product price;
- vendor reputation; and
- relationships with systems integrators.

Competition for market share and pressure to reduce prices and make sales concessions is likely to increase. There can be no assurance that we will be able to compete successfully against current or future competitors or that the competitive pressures faced by us will not materially adversely affect our business, operating results, and financial condition.

See "Competition" in Item 1 of this Annual Report for additional information.

Our Chief Executive Officer is our largest stockholder and can exert significant influence over matters submitted to our stockholders, which could materially adversely affect our other stockholders.

As of December 31, 2021, our Chief Executive Officer beneficially owned approximately 49 percent of our outstanding common stock. As a result, he has the ability to exert significant influence over all matters submitted to our stockholders for approval, including the election and removal of directors and any merger, consolidation, or sale of our assets. This concentration of ownership may delay or prevent a change in control, impede a merger, consolidation, takeover, or other business combination involving us, discourage a potential acquirer from making a tender offer or otherwise attempting to obtain control of us, or result in actions that may be opposed by other stockholders.

Risks Related to Information Technology Resilience and Security

We face risks related to outages, data losses, and disruptions of our online services if we fail to maintain an adequate operations infrastructure.

The increasing user traffic for our Pega Cloud offering demands more computing power. It requires that we maintain an internet connectivity infrastructure that is robust and reliable within competitive and regulatory constraints that continue to evolve. Inefficiencies or operational failures, including temporary or permanent loss of client data, power outages, or telecommunications infrastructure outages, by our third-party service providers or us, could diminish the quality of our user experience resulting in contractual liability, claims by clients and other third parties, damage to our reputation, loss of current and potential clients, and negatively impact our operating results and financial condition.

Security of our systems and global client data is a growing challenge on many fronts. Cyber-attacks and security breaches may expose us to significant legal and financial liabilities.

Security breaches could expose our clients and us to a risk of someone obtaining access to our information, to information our clients or their customers, or to our intellectual property, disabling or degrading service, or sabotaging systems or information. Any security breach could result in a loss of confidence in the security of our services, damage our reputation, disrupt our business, require us to incur significant costs of investigation, remediation and/or payment of a ransom, lead to legal liability, negatively impact our future sales, and result in a substantial financial loss. High-profile security breaches at other companies have increased in recent years. Security industry experts and government officials have warned about the risks of hackers and cyber-attackers targeting information technology products and businesses. Threats to IT security can take a variety of forms. Individual hackers, groups of hackers, and sophisticated organizations, including state-sponsored organizations, or nation-states themselves, may take steps that threaten our clients and us. Additionally, our Pega Cloud offering provides environments that are provisioned, monitored, and maintained for individual clients to create and deploy Pega-based applications using an Internet-based infrastructure. These services involve storing and transmitting client data and other confidential information.

Our security measures and those of our clients may be breached because of third-party actions or that of employees, consultants, or others, including intentional misconduct by computer hackers, system errors, human errors, technical flaws in our products, or otherwise. Because we do not control the configuration of Pega applications by our clients, the transmissions between our clients and our third-party technology providers, the processing of data on the servers at third-party technology providers, or the internal controls maintained by our clients and third-party technology providers that could prevent unauthorized access or provide appropriate data encryption, we cannot fully ensure the complete integrity or security of such transmissions processing or controls. In addition, privacy, security, and data transmission concerns in some parts of the world may inhibit demand for our Pega Cloud offering or lead to requirements to provide our products or services in configurations that may increase the cost of serving such markets. The techniques used to obtain unauthorized access or sabotage systems change frequently and are generally not recognized until launched against a target. While we have invested in protecting our data and systems and our clients' data to reduce these risks, there can be no assurance that our efforts will prevent breaches and, in fact, we deal with security issues on a regular basis and have experienced security incidents from time to time. Accordingly, there is a risk that a security breach will be successful and that such an event will be material. We carry data breach insurance coverage to mitigate the financial impact of a security breach, though this may prove insufficient in the event of a breach.

Our Pega Cloud offering involves hosting client applications on the servers of third-party technology providers. We also rely on third-party systems and technology, including encryption, virtualized infrastructure, and support, and employ a shared security model with our clients and third-party technology providers.

To defend against security threats, we need to continuously engineer products and services with enhanced security and reliability features, improve the deployment of software updates to address security vulnerabilities, apply technologies that mitigate the risk of attacks, and maintain a digital security infrastructure that protects the integrity of our network, products, and services. The cost of these steps could negatively impact our operating results.

We rely on third-party hosting providers to deliver our offerings. Therefore, any disruption or interference with our use of these services could adversely affect our business.

Our use of third-party hosting facilities requires us to rely on the functionality and availability of the third parties' services, as well as their data security, which despite our due diligence, may be or become inadequate. Our continued growth depends in part on the ability of our existing and potential customers to use and access our cloud services or our website to download our software within an acceptable amount of time. We use a number of third-party service providers for key infrastructure components, particularly concerning the development and delivery of our cloud-based products. These service providers give us greater flexibility in efficiently delivering a more tailored, scalable customer experience and expose us to additional risks and vulnerabilities. Third-party service providers operate platforms that we access, and we are vulnerable to their service interruptions. We may experience interruptions, delays, and outages in service and availability due to problems with our third-party service providers' infrastructure. This infrastructure's lack of availability could be due to many potential causes, including technical failures, power shortages, natural disasters, fraud, terrorism, or security attacks that we cannot predict or prevent. Such outages could trigger our service level agreements and the issuance of credits to our clients, which may impact our business and consolidated financial statements.

If we are unable to renew our agreements with our cloud service providers on commercially reasonable terms, an agreement is prematurely terminated, or we need to add new cloud services providers to increase capacity and uptime, we could experience interruptions, downtime, delays, and additional expenses related to transferring to and providing support for these new platforms. Any of the above circumstances or events may harm our reputation and brand, reduce our platforms' availability or usage, and impair our ability to attract new users, any of which could adversely affect our business, financial condition, and results of operations.

We may experience significant errors or security flaws in our products and services and could face privacy, product liability, and warranty claims.

Despite quality testing each release, our software frequently contains errors or security flaws, especially when first introduced or when new versions are released. Errors in our software could affect its ability to work with hardware or other software or delay the development or release of new products or new versions of our software. Additionally, detecting and correcting any security flaws can be time-consuming and costly. Errors or security flaws in our software could result in the inadvertent disclosure of confidential information or personal data relating to our clients, employees, or third parties. Software errors and security flaws in our products or services could expose us to privacy, product liability, or warranty claims and harm our reputation, which could impact our future sales of products and services. Typically, we enter into license agreements that contain provisions intended to limit the nature and extent of our risk of product liability and warranty claims. There is a risk that a court might interpret these terms in a limited way or hold part or all of these terms unenforceable. Also, there is a risk that these contract terms might not bind a party other than the direct client. Furthermore, some of our licenses with our clients are governed by non-U.S. law, and there is a risk that foreign law might give us less or different protection. Although we have not experienced any material product liability claims to date, a product liability suit or action claiming a breach of warranty, whether meritorious, could result in substantial costs and a diversion of management's attention and our resources.

Risks Related to Our Financial Obligations and Indebtedness

We have a significant amount of debt that may limit our business flexibility, access to capital, and/or increase our borrowing costs, and we may still incur additional debt in the future, which may adversely affect our operations and financial results.

As of December 31, 2021, we had \$600 million aggregate principal amount of indebtedness under our Convertible Senior Notes due 2025 (the “Notes”).

Our indebtedness may:

- limit our ability to borrow additional funds for working capital, capital expenditures, acquisitions, or other general business purposes;
- limit our ability to use our cash flow or obtain additional financing for future working capital, capital expenditures, acquisitions, or other general business purposes;
- require us to use a substantial portion of our cash flow from operations to make debt service payments;
- limit our flexibility to plan for, or react to, changes in our business and industry;
- place us at a competitive disadvantage compared to less leveraged competitors;
- dilute the interests of our existing stockholders because of issuing shares of our common stock upon the conversion of the Notes; and
- increase our vulnerability to the impact of adverse economic and industry conditions.

Our ability to pay our debt when due or refinance our indebtedness, including the Notes, depends on our future performance, which is subject to economic, financial, competitive, and other factors beyond our control. Our business may not generate sufficient cash flow from operations in the future to service our debt and make necessary investments in our business. Our ability to refinance our indebtedness will depend on the capital market conditions and our financial condition at such time. We may not be able to engage in any of these activities or engage in these activities on desirable terms, which could result in a default on our debt obligations which could, in turn, result in that and our other indebtedness becoming immediately payable in full which could harm our financial condition, results of operation or cost of borrowing. In addition, we may incur additional debt to meet future financing needs. If we incur additional indebtedness, the risks related to our business and our ability to service or repay our indebtedness will increase.

The conditional conversion feature of the Notes, if triggered, may adversely affect our financial condition and operating results.

Under certain circumstances, the noteholders may convert their Notes at their option prior to the scheduled maturities. Upon conversion of the Notes, unless we elect to deliver solely shares of our common stock to settle such conversion, we will be obligated to make cash payments. In addition, holders of our Notes will have the right to require us to repurchase their Notes upon the occurrence of a fundamental change (as defined in the indenture, dated as of February 24, 2020, between U.S. Bank National Association, as trustee (the “Trustee”) and us (the “Indenture”)), at a repurchase price equal to 100% of the principal amount of the Notes to be repurchased, plus accrued and unpaid interest, if any, to, but not including, the fundamental change repurchase date. Although it is our intention and we currently expect to settle the conversion value of the Notes in cash up to the principal amount and any excess in shares, there is a risk that we may not have enough available cash or be able to obtain financing at the time we are required to make repurchases of Notes surrendered therefor or Notes being converted. In addition, our ability to make payments may be limited by law, by regulatory authority, or by agreements governing our future indebtedness. Our failure to repurchase Notes when the Indenture requires the repurchase or to pay any cash payable on the Notes’ future conversions as required by the Indenture would constitute a default under the Indenture. A default under the Indenture or the fundamental change itself could also lead to a default under agreements governing our future indebtedness. If the repayment of the related indebtedness were to be accelerated after any applicable notice or grace periods, we may not have sufficient funds to repay the indebtedness and repurchase the Notes or make cash payments upon conversions thereof. In addition, even if holders of Notes do not elect to convert their Notes, we could be required under applicable accounting rules to reclassify all or a portion of the outstanding principal of the Notes as a current rather than long-term liability, which would result in a material reduction of our net working capital.

The Capped Call Transactions may affect the value of the Notes and our common stock.

In connection with the Notes’ issuance, we entered Capped Call Transactions with certain financial institutions (“option counterparties”). The Capped Call Transactions are generally expected to reduce the potential dilution of our common stock upon any conversion of the Notes and/or offset any cash payments we are required to make in excess of the principal amount of converted Notes, with such reduction and/or offset subject to a cap. From time to time, the option counterparties or their respective affiliates may modify their hedge positions by entering into or unwinding derivative transactions with respect to our common stock and/or purchasing or selling our common stock or other securities of ours in secondary market transactions before the maturity of the Notes. This activity could cause a decrease in the market price of our common stock.

We are exposed to counterparty risk for the Capped Call Transactions.

The option counterparties are financial institutions, and we are subject to the risk that one or more of the option counterparties may default or otherwise fail to perform, or may exercise certain rights to terminate, their obligations under the Capped Call Transactions. Our exposure to the credit risk of the option counterparties is not secured by any collateral. If an option counterparty becomes subject to insolvency proceedings, we will become an unsecured creditor in those proceedings with a claim equal to our exposure at the time under such transaction. Our exposure depends on many factors, but our exposure will generally increase if the market price or the volatility of our common stock increases. In addition, upon default or other failures to perform, or termination of obligations, by an option counterparty, we may suffer more dilution in our common stock than we currently anticipate. We can provide no guarantee as to the financial stability or viability of the option counterparties.

Provisions in the Notes' Indenture may deter or prevent a business combination that may be favorable to our stockholders.

If a fundamental change occurs prior to the Notes' maturity date, holders of the Notes will have the right, at their option, to require us to repurchase all or a portion of their Notes. In addition, if a "make-whole fundamental change" (as defined in the Indenture) occurs prior to the maturity date, we will in some cases be required to increase the conversion rate of the Notes for a holder that elects to convert its Notes in connection with such make-whole fundamental change.

Furthermore, the Indenture prohibits us from engaging in certain mergers or acquisitions unless, among other things, the surviving entity assumes our obligations under the Notes. These and other provisions in the Indenture could deter or prevent a third party from acquiring us even when the acquisition may be favorable to our stockholders.

Conversion of the Notes may dilute the ownership interest of existing stockholders.

The conversion of some or all of the Notes will dilute the ownership interests of existing stockholders to the extent we deliver shares of our common stock upon conversion of any of the Notes. Any sales in the public market of the common stock issuable upon such conversion could adversely affect our common stock's prevailing market prices. In addition, the existence of the Notes may encourage short selling by market participants because the conversion of the Notes could be used to satisfy short positions, or anticipated conversion of the Notes into shares of our common stock could depress the price of our common stock.

We are required to comply with certain financial and operating covenants under our revolving credit facility. Failure to comply with these covenants could cause amounts borrowed to become immediately due and payable and/or prevent us from borrowing under the credit facility.

We must comply with specified financial and operating covenants under our credit facility and make payments, limiting our ability to operate our business as we otherwise might. Our failure to comply with any of these covenants or to meet any debt payment obligations could result in an event of default which, if not cured or waived, would result in any amounts outstanding, including any accrued interest and/or unpaid fees, becoming immediately due and payable. We might not have sufficient working capital or liquidity to satisfy any repayment obligations in the event of an acceleration of those obligations. In addition, if we are not in compliance with the financial and operating covenants under the credit facility at the time we wish to borrow funds, we will be unable to borrow funds. The financial and operating covenants under the credit facility may limit our ability to borrow funds or capital, including for strategic acquisitions, share repurchases, and other general corporate purposes.

Risks Related to Government Regulation and Intellectual Property

Our success depends in part on maintaining and increasing our sales to clients in the public sector.

We derive a portion of our revenues from contracts with federal, state, local, and foreign governments and agencies. We believe that our business's success and growth will continue to depend on our successful procurement of government contracts. Selling to government entities can be highly competitive, expensive, and time-consuming, often requiring significant upfront time and expense without any assurance that our efforts will produce any sales.

Factors that could impede our ability to maintain or increase the revenue derived from government contracts include:

- changes in fiscal or contracting policies;
- decreases in available government funding;
- changes in government programs or applicable requirements;
- the adoption of new laws or regulations or changes to existing laws or regulations;
- potential delays or changes in the government appropriations or other funding authorization processes;
- governments and governmental agencies requiring contractual terms that are unfavorable to us, such as most-favored-nation pricing provisions; and
- delays in the payment of our invoices by government payment offices.

The occurrence of any of those factors could cause governments and governmental agencies to delay or refrain from purchasing our software in the future or otherwise harm our business, results of operations, financial condition, and cash flows.

Further, to increase our sales to clients in the public sector, we must comply with laws and regulations relating to the formation, administration, performance, and pricing of contracts with the public sector, including U.S. federal, state, and local governmental bodies, which affect how our channel partners and we do business in connection with governmental agencies. These laws and regulations may impose added costs on our business, and failure to comply with these laws and regulations or other applicable requirements, including non-compliance in the past, could lead to claims for damages from our channel partners or government clients, penalties, termination of contracts, loss of intellectual property rights, and temporary suspension or permanent debarment from government contracting. Any such damages, penalties, disruptions, or limitations in our ability to do business with the public sector could have a material adverse effect on our business, results of operations, financial condition, and cash flows.

We are subject to increasingly complex U.S. and foreign laws and regulations, requiring costly compliance measures. Any failure to comply with these laws and regulations could subject us to, among other things, penalties and legal expenses that could harm our reputation or otherwise have a material adverse effect on our business, financial condition, and results of operations.

We are subject to extensive federal, state, and foreign laws and regulations, including but not limited to the U.S. Foreign Corrupt Practices Act, the U.K. Bribery Act, data privacy and security laws, and similar laws and regulations. The U.S. Foreign Corrupt Practices Act, the U.K. Bribery Act, and similar foreign anti-bribery laws generally prohibit companies and their intermediaries from making improper payments to obtain or retain business. Similar laws and regulations exist in many other countries throughout the world in which we do or intend to do business. Data privacy laws and regulations in Europe, Australia, Latin America, and elsewhere are undergoing a rapid transformation toward increased restrictions.

In April 2016, the European Parliament adopted the General Data Protection Regulation (“GDPR”). It became effective in May 2018. The GDPR extends the scope of European privacy laws to any entity that controls or processes personal data of European Union residents in connection with the offer of goods or services or the monitoring of behavior and imposes new compliance obligations concerning the handling of personal data. Complying with the GDPR and other emerging and changing requirements caused us to incur additional costs in 2021 and may cause us to incur substantial additional costs or require us to change our business practices. Compliance also depends on how regulators choose to interpret and apply the new requirements. Moreover, non-compliance, or if regulators assert we have not complied, with GDPR could result in significant monetary penalties of up to the higher of 20 million Euro or 4% of annual worldwide revenue, private lawsuits, and damage to our reputation, which could have a material adverse effect on our business, financial condition, and results of operation.

The California Consumer Privacy Act (“CCPA”), which creates new individual privacy rights for California consumers (as defined in the law) and places increased privacy and security obligations on entities handling certain personal data of consumers or households, went into effect on January 1, 2020, and the California Attorney General may now bring enforcement actions for violations. The CCPA requires, among other things, covered companies to provide new disclosure to consumers about such companies’ data collection, use and sharing practices, provide such consumers new ways to opt-out of certain sales or transfers of personal information, and provide consumers with additional causes of action. Further, California voters approved a new privacy law, the California Privacy Rights Act (“CPRA”) in the November 3, 2020 election. Effective January 1, 2023, the CPRA will significantly modify the CCPA, including by expanding California consumers’ rights with respect to certain sensitive personal information. The CPRA also creates a new state agency that will be vested with authority to implement and enforce the CCPA and the CPRA. The CCPA and CPRA may increase our compliance costs and potential liability.

We have developed and implemented a compliance program based on what we believe are reasonable practices, including the background checking of our current partners and prospective clients and partners. We cannot guarantee, however, that we, our employees, our consultants, our partners, or our contractors are or will be compliant with all federal, state, and foreign regulations, particularly as we expand our operations outside of the U.S. If our representatives or we fail to comply with any of these laws or regulations, a range of fines, penalties, and/or other sanctions could be imposed on us, which could have a material adverse effect on our business, financial condition, and results of operations. Even if we are determined not to have violated these laws, government inquiries into these issues typically require the expenditure of significant resources and generate negative publicity, which could also harm our business. In addition, regulation of data privacy and security laws is increasing worldwide, including various restrictions on cross-border access or transfer of data, including personal data of our employees, our clients, and customers of our clients. Compliance with such regulations may increase our costs, and there is a risk of enforcement of such laws resulting in damage to our brand, as well as financial penalties and the potential loss of business, which could be significant.

Our tax exposures could be greater than anticipated.

The determination of our worldwide provision for income taxes and other tax liabilities requires estimation and significant judgment, and there are many transactions and calculations where the ultimate tax determination is uncertain. Like many other multinational corporations, we are subject to tax in multiple U.S. and foreign jurisdictions. The determination of our tax liability is always subject to audit and review by applicable domestic and foreign tax authorities, and we are currently undergoing several inquiries, audits, and reviews by taxing authorities throughout the world. Any adverse outcome of any such audit or review could harm our business, and the ultimate tax outcome may differ from the amounts recorded in our financial statements and may materially affect our financial results in the period or periods for which such determination is made. While we have established reserves based on assumptions and estimates that we believe are reasonable to cover such eventualities, these reserves may prove to be insufficient.

In addition, our future income taxes could be materially adversely affected by a shift in our jurisdictional income mix, by changes in the valuation of our deferred tax assets and liabilities, because of changes in tax laws, regulations, or accounting principles, as well as by certain discrete items. In the United States, such tax law changes could include the impact of the currently enacted mandatory capitalization of research and experimentation expenses, effective for tax years beginning after December 31, 2021 (but postponed to 2026 in the proposed Build Back Better (“BBBA”) Act, which is currently under consideration in the United States Congress), or new tax revenue-raising provisions also tied to the proposed BBBA. Globally, the Organization for Economic Cooperation and Development Inclusive Framework on Base Erosion and Profit Shifting is advancing fundamental changes to the international corporate tax system creating new rules for allocating rights to tax global income and a global minimum tax.

Considering fiscal challenges in many jurisdictions, various levels of government are increasingly focused on tax reform and other legislative actions to increase tax revenue, including corporate income taxes. Several U.S. states have attempted to increase corporate tax revenues by taking an expansive view of corporate presence to attempt to impose corporate income taxes and other direct business taxes on companies that have no physical presence in their state, and taxing authorities in foreign jurisdictions may take similar actions. Many U.S. states are also altering their apportionment formulas to increase the amount of taxable income or loss attributable to their state from certain out-of-state businesses. Similarly, in Europe and elsewhere globally, there are various tax reform efforts underway designed to increase the taxes paid by corporate entities.

If it becomes necessary or desirable to repatriate any of our foreign cash balances to the United States, we may be subject to increased taxes, other restrictions, and limitations.

As of December 31, 2021, \$88.0 million of our cash and cash equivalents were held in our foreign subsidiaries. If it becomes necessary or desirable to repatriate these funds, we may be required to pay U.S. federal, state, and local income and foreign withholding taxes upon repatriation. We consider the earnings of our foreign subsidiaries to be permanently reinvested. As a result, U.S. federal, state, and local, and foreign withholding taxes on such earnings have not been provided in our financial statements. It is not practical to estimate the amount of tax we would have to pay upon repatriation due to the complexity of the tax laws and other factors.

We face risks related to intellectual property claims or appropriation of our intellectual property rights.

We rely primarily on a combination of patent, copyright, trademark, and trade secrets laws, as well as intellectual property and confidentiality agreements to protect our proprietary rights. We also try to control access to and distribution of our technologies and other proprietary information. We have obtained patents in strategically important global markets relating to the architecture of our systems. We cannot be certain that such patents will not be challenged, invalidated, or circumvented, or that rights granted thereunder, or the claims contained therein will provide us with competitive advantages. Moreover, despite our efforts to protect our proprietary rights, unauthorized parties may attempt to copy aspects of our software or to obtain the use of information that we regard as proprietary. Although we generally enter into intellectual property and confidentiality agreements with our employees and strategic partners, despite our efforts our former employees may seek employment with our business partners, clients, or competitors, and there can be no assurance that the confidential nature of our proprietary information will be maintained. In addition, the laws of some foreign countries do not protect our proprietary rights as effectively as they do in the U.S. There can be no assurance that our means of protecting our proprietary rights will be adequate or that our competitors will not independently develop similar technology.

Other companies or individuals have obtained proprietary rights covering a variety of designs, processes, and systems. Third parties have claimed and may in the future claim that we have infringed or otherwise violated their intellectual property. We are currently party to litigation with Appian Corp. – see Part I, Item 3 “Legal Proceedings” and Note 19 in the “Notes to Consolidated Financial Statements” included in Part II, Item 8 of this Annual Report. Although we attempt to limit the amount and type of our contractual liability for infringement or other violation of the proprietary rights of third parties and assert ownership of work product and intellectual property rights as appropriate, there are often exceptions, and limitations may not be applicable and enforceable in all cases. Even if limitations are found to be applicable and enforceable, our liability to our clients for these types of claims could be material given the size of certain of our transactions. We expect that software product developers will increasingly be subject to infringement claims as the number of products and competitors in our industry segment grows and the functionality of products in different industry segments overlaps. Any such claims, with or without merit, could be time-consuming, result in costly litigation, cause product shipment and delivery delays, require us to enter into royalty or licensing agreements, or be precluded from making and selling the infringing software, if such proprietary rights are found to be valid. Royalty or licensing agreements, if required, may not be available on terms acceptable to us or at all. These claims could also subject us to significant liability for damages, potentially including treble damages if we are found to have willfully infringed patents or copyrights. Even if a license were available, we could be required to pay significant royalties, which would increase our operating expenses. As a result, we may be required to develop alternative non-infringing technology, which could require substantial effort and cost. If we cannot license or develop technology for any infringing aspect of our business, we would be forced to limit or stop sales of our software and may be unable to compete effectively, which could have a material effect upon our business, operating results, and financial condition.

Intellectual property rights claims by third parties are extremely costly to defend, could require us to pay significant damages, and could limit our ability to use certain technologies.

Companies in the software and technology industries, including some of our current and potential competitors, own large numbers of patents, copyrights, trademarks, and trade secrets and frequently enter into litigation based on allegations of infringement or other violations of intellectual property rights. In addition, many of these companies can dedicate greater resources to enforce their intellectual property rights and to defend claims that may be brought against them. The litigation may involve patent holding companies or other adverse patent owners that have no relevant product revenues and against which our patents may, therefore, provide little or no deterrence. Third parties have claimed and may claim in the future that we have misappropriated, misused, or infringed other parties' intellectual property rights, and, to the extent we gain greater market visibility, we face a higher risk of being the subject of intellectual property claims. We are currently party to litigation with Appian Corp. – see Part I, Item 3 “Legal Proceedings” and Note 19 in the “Notes to Consolidated Financial Statements” included in Part II, Item 8 of this Annual Report.

Any litigation regarding intellectual property could be costly and time-consuming and could divert the attention of our management and key personnel from our business operations. Significant judgments are required for the determination of probability and the range of the outcomes in any legal dispute, and the estimates are based only on the information available to us at the time. Due to the inherent uncertainties involved in claims, legal proceedings, and in estimating the losses that may arise, actual outcomes may differ from our estimates. Contingencies deemed not probable or for which losses were not estimable in one period may become probable, or losses may become estimable in later periods which may have a material impact on our results of operations and financial position. Intellectual property disputes could subject us to significant liabilities, require us to enter into royalty and licensing arrangements on unfavorable terms, prevent us from manufacturing or licensing certain of our products, cause severe disruptions to our operations or the markets in which we compete, or require us to satisfy indemnification commitments to our customers. Any of these could seriously harm our business.

Actual or threatened public health emergencies could harm our business.

The outbreak of a novel coronavirus disease (“COVID-19”) has spread across the globe and is impacting worldwide economic activity. A pandemic, including COVID-19, and other public health emergencies pose the risk that our employees, partners, and clients may be prevented from conducting business activities at full capacity for an indefinite period, including due to the spread of the disease within these groups or due to the shutdowns that are requested or mandated by governmental authorities. Moreover, these conditions can affect the rate of information technology spending and may adversely affect our clients' willingness to purchase our solutions, delay prospective clients' purchasing decisions, reduce the value or duration of their contracts, cause our clients to request concessions including extended payment terms or better pricing, or affect attrition rates, all of which could adversely affect our future sales and operating results. The global spread of COVID-19 has created significant uncertainty, and economic disruption.

We have undertaken measures to protect our employees, partners, and clients, including allowing our employees to work remotely. There can be no assurance that these measures will be sufficient, however, or that we can implement them without adversely affecting our business operations.

We continue to monitor COVID-19 and adjust our policies as more information and public health guidance become available. Precautionary measures that have been adopted, or may be adopted in the future, could negatively affect our client success, sales, and marketing efforts, delay and lengthen our sales cycles, or create operational or other challenges, all of which could harm our business and results of operations. In addition, COVID-19 may disrupt and change our clients', vendors', and partners' operations in ways that are difficult to predict, including because of travel restrictions, business shutdowns, supply chain delays and/or more pervasive remote work environments, all of which could negatively impact our business, results of operations, and cash flows.

At this time, it is not possible to estimate the ultimate impact that COVID-19 will have on our business, as the impact will depend on future developments, which are highly uncertain and unpredictable. Furthermore, due to our shift to a subscription model, the effect of COVID-19 may not be fully reflected in our results of operations until future periods. The extent to which COVID-19 impacts our business, operations, and financial results will depend on numerous evolving factors that we may not be able to predict accurately, including:

- the duration and scope of the pandemic;
- governmental, business, and individual actions taken in response to the pandemic and the impact of those actions on global economic activity;
- the actions that are taken in response to economic disruption;
- the impact of business disruptions and reductions in our clients' business and the resulting impact on their demand for our services and solutions; and
- our ability to provide our services and solutions, including because of our employees or our clients' employees working remotely and/or closures of offices and facilities.

General Risk Factors

The provision in our amended and restated bylaws, requiring exclusive forum in certain courts in The Commonwealth of Massachusetts or the federal district court for the District of Massachusetts for certain types of lawsuits, may have the effect of discouraging lawsuits against us and our directors, officers, and employees.

Our amended and restated bylaws provide that unless we consent in writing to the selection of an alternative forum, the Business Litigation Section of the Superior Court of Suffolk County, Massachusetts (the “BLS”) or, if the BLS lacks jurisdiction, the federal district court for the District of Massachusetts, Eastern Division, shall be the exclusive forum for (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers, or other employees to us or our stockholders, (iii) any action asserting a claim arising pursuant to the Massachusetts Business Corporation Act (the “MBCA”), our articles of organization, or our bylaws (as each may be amended from time to time), or (iv) any action asserting a claim governed by the internal affairs doctrine.

The choice of forum provision may increase costs to bring a claim, discourage claims, or 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, which may discourage such lawsuits against us or our directors, officers, and other employees. Alternatively, if a court were to find the choice of forum provision in our amended and restated bylaws to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions. The exclusive forum provision in our amended and restated bylaws will not preclude or contract the scope of exclusive federal or concurrent jurisdiction for actions brought under the federal securities laws, including the Securities Exchange Act of 1934, as amended, or the Securities Act of 1933, as amended, or the respective rules and regulations promulgated thereunder.

The continued uncertainties in the global economy may negatively impact our sales to, and the collection of receivables from our clients.

Our sales to, and the collection of receivables from, our clients may be impacted by adverse changes in global economic conditions. The U.S. and other key international economies have experienced cyclical downturns from time to time, during which economic activity has been impacted by falling demand for goods and services, inflation, restricted credit, poor liquidity, reduced corporate profitability, volatility in credit, equity, and foreign exchange markets, bankruptcies, and economic uncertainty. These changes in global economic conditions could impact the ability and willingness of our clients to make investments in technology, which in turn may delay or reduce the purchases of our software and services. These factors could also impact the ability and willingness of these clients to pay their trade obligations and honor their contractual commitments. These clients may also become subject to increasingly restrictive regulatory requirements, which could limit or delay their ability to proceed with technology purchases and may result in longer sales cycles, increased price competition, and reductions in sales of our products and services. The financial uncertainties facing many of our clients and the industries in which they operate could negatively impact our business, operating results, and financial condition.

The U.K.’s withdrawal from the European Union could have a material impact on our business, including our relationships with existing and future clients, suppliers, and employees, which could harm our financial results and operations.

We have material operations in the U.K. and European Union. While the full effects of Brexit will not be known for some time, the ultimate or perceived impacts of the U.K.’s withdrawal from the European Union could potentially disrupt the markets we serve and the tax jurisdictions in which we operate. The impact of Brexit will depend on any agreements the U.K. makes to retain access to EU markets following the transition period. In addition, Brexit could lead to legal uncertainty, and potentially divergent national laws and regulations as the U.K. determine which EU laws to replace or replicate, presenting new regulatory costs and challenges. Any of these effects could materially adversely affect our business, results of operations, and financial condition.

The market price of our common stock has been and is likely to continue to be volatile.

The market price of our common stock may be highly volatile and may fluctuate due to a variety of factors, some of which are related in complex ways.

Factors that may affect the market price of our common stock include:

- actual or anticipated fluctuations in our financial condition and operating results;
- variance in our financial performance from expectations of securities analysts;
- changes in our projected operating and financial results;
- changes in the prices of our products and professional services;
- changes in laws or regulations applicable to our products or services;
- announcements by our competitors or us of significant business developments, acquisitions, or new offerings;
- our involvement in any litigation or investigations by regulators, including litigation judgments, settlements, or other litigation-related costs;
- our sale of our common stock or other securities;
- changes in our Board of Directors, senior management, or key personnel;
- the trading volume of our common stock;
- price and volume fluctuations in the overall stock market;
- changes in the anticipated future size and growth rate of our market; and
- general economic, regulatory, political, and market conditions.

Broad market and industry fluctuations, as well as general economic, regulatory, political, and market conditions, may negatively impact the market price of our common stock. In the past, companies that have experienced volatility in the market price of their securities have been subject to securities class action litigation. We may be the target of this type of litigation in the future, which could result in substantial costs and divert our management's attention.

We may fail to meet our publicly announced guidance or other expectations about our business and future operating results, which could cause our stock price to decline.

We have provided and may continue to give guidance on our business, future operating results, and other business metrics. In developing this guidance, our management must make certain assumptions and judgments about our future performance. Furthermore, analysts and investors may develop and publish their own projections of our business, which may form a consensus about our future performance. Our business results may vary significantly from such guidance or that consensus due to a number of factors, many of which are outside of our control and which could materially adversely affect our operations and operating results. Furthermore, if we make downward revisions of our previously announced guidance, or if our publicly announced guidance of future operating results fails to meet expectations of securities analysts, investors, or other interested parties, our common stock price may decline.

If securities or industry analysts do not publish research or reports about our business, or publish negative 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 securities and industry analysts publish about us or our business. We do not have any control over these analysts. If our financial performance fails to meet analyst estimates or one or more of the analysts who cover us downgrade our shares or change their opinion of our shares, our stock price would likely decline. If one or more of these analysts cease coverage of us or fail to publish reports on us regularly, we could lose visibility in the financial markets, which could cause our stock price or trading volume to decline.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

Our principal administrative, sales, marketing, support, and research and development operations are in Cambridge, Massachusetts, Waltham, Massachusetts, and Hyderabad, India. We also maintain offices elsewhere in the Americas, Europe, and the Asia-Pacific regions. All of our properties are leased. We believe we will be able to obtain future space as needed on acceptable and commercially reasonable terms.

See "Note 10. Leases" in Item 8 of this Annual Report for additional information.

ITEM 3. LEGAL PROCEEDINGS

In addition to the matters below, the Company is, or may become, involved in a variety of claims, demands, suits, investigations, and proceedings that arise from time to time relating to matters incidental to the ordinary course of the Company's business, including actions with respect to contracts, intellectual property, employment, benefits, and securities matters. Regardless of the outcome, legal disputes can have a material effect on the Company because of defense and settlement costs, diversion of management resources, and other factors.

Pegasystems Inc. v. Appian Corp. & Business Process Management Inc.

On July 3, 2019, the Company filed suit in Massachusetts federal court against Appian Corp. ("Appian") and Business Process Management, Inc. ("BPM") relating to a BPM "Market Report" that Appian had used to promote itself against the Company. *Pegasystems Inc. v. Appian Corp. & Business Process Management Inc.*, No. 1:19-cv-11461 (D. Mass). The Company's complaint alleges that the report and Appian's marketing of it include false and misleading statements about the Company. The Company asked the court to order Appian to stop using the report, and Appian subsequently agreed to stop using the report. The Company also asked the court to award damages for false advertising, deceptive business practices, and commercial disparagement. On December 17, 2019, Appian asserted counterclaims against the Company seeking unspecified monetary damages and alleging certain of the Company's past marketing materials included false and misleading statements, one of the marketing reports failed to disclose that the report's author was paid by the Company, and that the Company defamed Appian in a LinkedIn post. On May 22, 2020, the court allowed in part the Company's motion to dismiss the counterclaims brought by Appian, but denied the motion as to the third party report and the defamation count. As described below, on May 29, 2020, Appian then sued the Company in Virginia. On June 17, 2021, Appian asserted additional counterclaims against the Company seeking unspecified monetary damages and alleging that certain additional marketing materials used by the Company contained false or misleading statements. The Company believes the counterclaims brought by Appian against the Company are without merit, and the Company intends to vigorously pursue its claims against Appian and defend against the counterclaims brought against the Company in this matter. The Company is unable to reasonably estimate possible damages or a range of possible damages in this matter given the Company's belief that the damages claimed by Appian fail to satisfy the required legal standard, the status of the proceeding, and due to the uncertainty as to how a jury may rule if this ultimately proceeds to trial.

Appian Corp. v. Pegasystems Inc. & Youyong Zou

On May 29, 2020, Appian sued the Company and an individual, Youyong Zou, in the Circuit Court of Fairfax County, Virginia in a matter titled *Appian Corp. v. Pegasystems Inc. & Youyong Zou*, No. 2020-07216 (Fairfax Cty. Ct.). The complaint filed by Appian on May 29, 2020 (the "2020 Complaint") alleges that Mr. Zou was an employee of an Appian business partner, Serco Inc. ("Serco"); that, as a result, Mr. Zou had access to Appian trade secrets which Mr. Zou was required to keep confidential; and that in approximately 2013, while Mr. Zou was employed by Serco, the Company engaged Mr. Zou through an intermediary to provide the Company with Appian trade secrets and confidential information, which the Company is then claimed to have used to compete against Appian. The 2020 Complaint sets forth claims for misappropriation of trade secrets under the Virginia Uniform Trade Secrets Act, violation of the Virginia Computer Crimes Act, tortious interference with contract and business expectancy, and statutory and common law conspiracy. On July 24, 2020, the Company filed a plea in bar, seeking to have the claims asserted against the Company in the 2020 Complaint barred, in whole or in part, by the applicable statutes of limitations. Before the original plea in bar could be heard, Appian filed an amended complaint which the court allowed on November 4, 2021 (the "2021 Amended Complaint"), alleging that, in the 2019 time frame, employees of the Company accessed free Appian product trials under false pretenses. The 2021 Amended Complaint withdrew the claim for tortious interference with contract. After Appian filed the 2021 Amended Complaint, the Company successfully moved to dismiss Appian's conspiracy claims, which are no longer a part of the case. The Company also re-filed a plea in bar on November 29, 2021 seeking to have the claims asserted against the Company in the 2021 Amended Complaint barred, in whole or in part, by the applicable statutes of limitations. A jury hearing on the plea in bar commenced on January 31, 2022. On February 9, 2022, the judge determined that he could decide the plea in bar without the jury and, on February 10, 2022, the judge entered a verdict granting the relief sought by the Company's plea in bar motion with respect to the Virginia Computer Crimes Act, meaning the allegations asserted against the Company in the 2021 Amended Complaint with respect to the Virginia Computer Crimes Act are barred by the applicable statutes of limitations for conduct on or prior to May 29, 2015, while the claims made with respect to misappropriation of trade secrets under the Virginia Uniform Trade Secrets Act are not similarly barred. Appian's claim for tortious interference with business expectancy was not a subject of the plea in bar. On February 11, 2022, the court allowed Appian's motion to further amend the 2021 Amended Complaint to assert a damages claim of approximately \$3 billion, seeking all of the Company's revenues less estimated direct costs from the sale of all of the Company's products and services in the period from the fourth quarter of 2013 through the third quarter of 2021. Virginia law requires that the plaintiff establish proximate cause between any alleged use of the alleged trade secrets and damages incurred by the plaintiff, and also requires plaintiffs seeking damages to allege a specific damages amount, prohibiting recovery beyond that amount.

In addition to disputing the validity of Appian's claims against the Company, the Company believes that any alleged damages claimed by Appian are not supported by the necessary legal standard of proximate cause. In addition, following the February 10, 2022 ruling on the Company's plea in bar, the ongoing claim under the Virginia Computer Crimes Act is time limited to acts occurring after May 29, 2015. A jury trial with respect to the merits of the dispute is scheduled to begin on March 21, 2022. The Company believes the claims brought by Appian against the Company are without merit, that the Company has strong defenses to these claims and that, among other things, even were the jury to find that the Company misappropriated Appian's alleged trade secrets, any alleged damages claimed by Appian are not supported by the necessary legal standard of proximate cause. The Company is unable to reasonably estimate possible damages or a range of possible damages given the Company's belief that the damages claimed by Appian fail to satisfy the required legal standard and due to the uncertainty as to how a jury may rule.

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 is quoted on the NASDAQ Global Select Market under the symbol "PEGA."

Holders

As of February 4, 2022, we had 52 stockholders of record.

Dividends

During 2021, 2020, and 2019, we paid a quarterly cash dividend of \$0.03 per share of common stock. We currently expect to pay a quarterly cash dividend of \$0.03 per share, however, the Board of Directors may terminate or modify this dividend program at any time without prior notice.

Issuer purchases of equity securities ⁽¹⁾

Common stock repurchased in the three months ended December 31, 2021:

<i>(in thousands, except per share amounts)</i>	Total Number of Shares Purchased ⁽²⁾	Average Price Paid per Share ⁽²⁾	Total Number of Shares Purchased as Part of Publicly Announced Share Repurchase Program	Approximate Dollar Value of Shares That May Yet Be Purchased at Period End Under Publicly Announced Share Repurchased Programs
October 1, 2021 - October 31, 2021	54	\$ 126.55	33	\$ 39,806
November 1, 2021 - November 30, 2021	93	\$ 119.18	43	\$ 34,724
December 1, 2021 - December 31, 2021	204	\$ 110.93	109	\$ 22,583
Total	<u>351</u>	\$ 115.52		

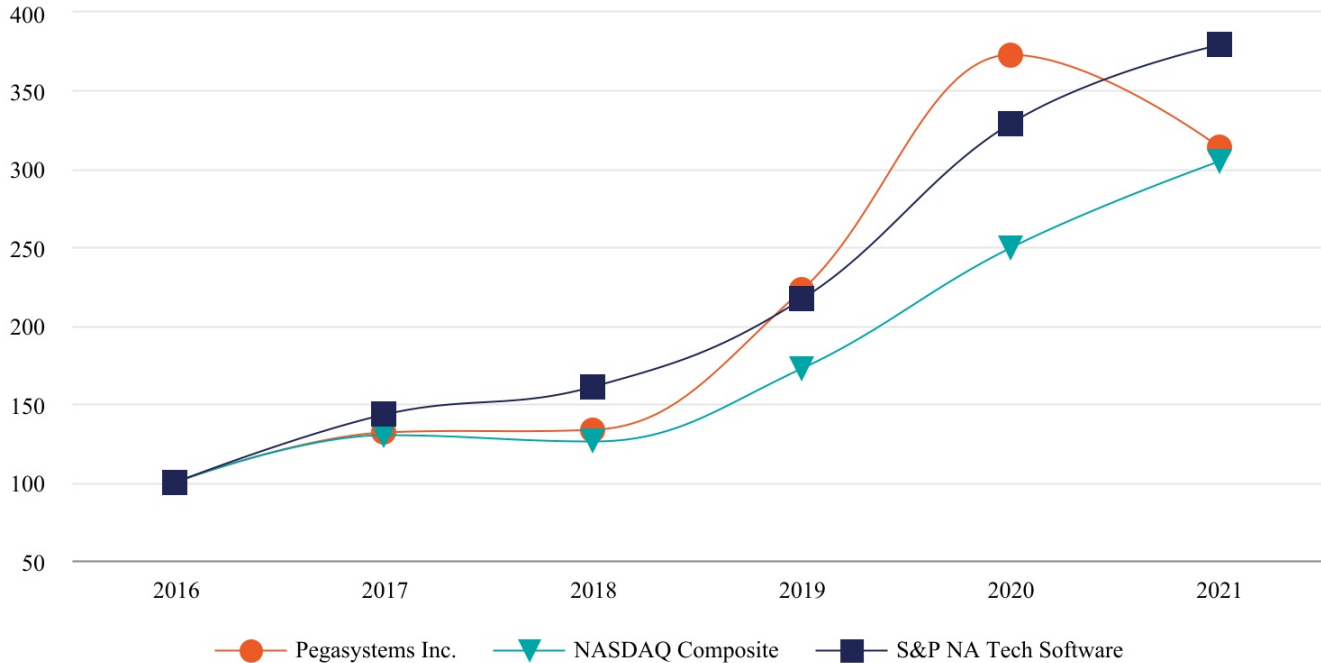
(1) See "Stock repurchase program" in Item 7 of this Annual Report for additional information.

(2) Shares withheld to cover the option exercise price and tax withholding obligations under the net settlement provisions of our stock compensation awards have been included in these amounts.

Stock performance graph and cumulative total stockholder return ⁽¹⁾

The following performance graph represents a comparison of the cumulative total stockholder return, assuming the reinvestment of dividends, for a \$100 investment on December 31, 2016 in our common stock, the Total Return Index for the NASDAQ Composite, a broad market index, and the Standard & Poor’s (“S&P”) North American Technology Sector - Software Index™ (“S&P NA Tech Software”), a published industry index.

Comparison of 5 Year Cumulative Total Return



	December 31,					
	2016	2017	2018	2019	2020	2021
Pegasystems Inc.	\$ 100.00	\$ 131.28	\$ 133.46	\$ 222.63	\$ 372.92	\$ 313.23
NASDAQ Composite	\$ 100.00	\$ 129.64	\$ 125.96	\$ 172.18	\$ 249.51	\$ 304.85
S&P NA Tech Software	\$ 100.00	\$ 142.80	\$ 160.85	\$ 216.49	\$ 328.85	\$ 379.14

(1) The graph lines merely connect measurement dates and do not reflect fluctuations between those dates.

ITEM 6. [RESERVED]

ITEM 7. MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

BUSINESS OVERVIEW

We develop, market, license, host, and support enterprise software that helps organizations simplify business complexity. Our powerful low-code platform for workflow automation and AI-powered decisioning enables the world’s leading brands and government agencies to hyper-personalize customer experiences, streamline customer service, and automate mission-critical business processes and workflows. With Pega, our clients can leverage our intelligent technology and scalable architecture to accelerate their digital transformation. Our client success teams, world-class partners, and clients themselves leverage our Pega Express™ methodology to design and deploy mission-critical applications quickly and collaboratively.

Our target clients are Global 3000 organizations and government agencies that require solutions to distinguish themselves in the markets they serve. Our solutions achieve and facilitate differentiation by increasing business agility, driving growth, improving productivity, attracting and retaining customers, and reducing risk. Along with our partners, we deliver solutions tailored to our clients’ specific industry needs.

Subscription transition

We are transitioning our business to sell software primarily through subscription arrangements. Until we fully complete our subscription transition, which we expect will occur in 2023, our revenue and operating cash flow growth may be impacted. Operating performance and the actual mix of revenue and new arrangements in each period can fluctuate based on client preferences for our perpetual and subscription offerings. See risk factor "If we fail to manage our transition to a more subscription-based business model successfully, our results of operations and/or cash flows could be negatively impacted" in Item 1A of this Annual Report for additional information.

Coronavirus ("COVID-19")

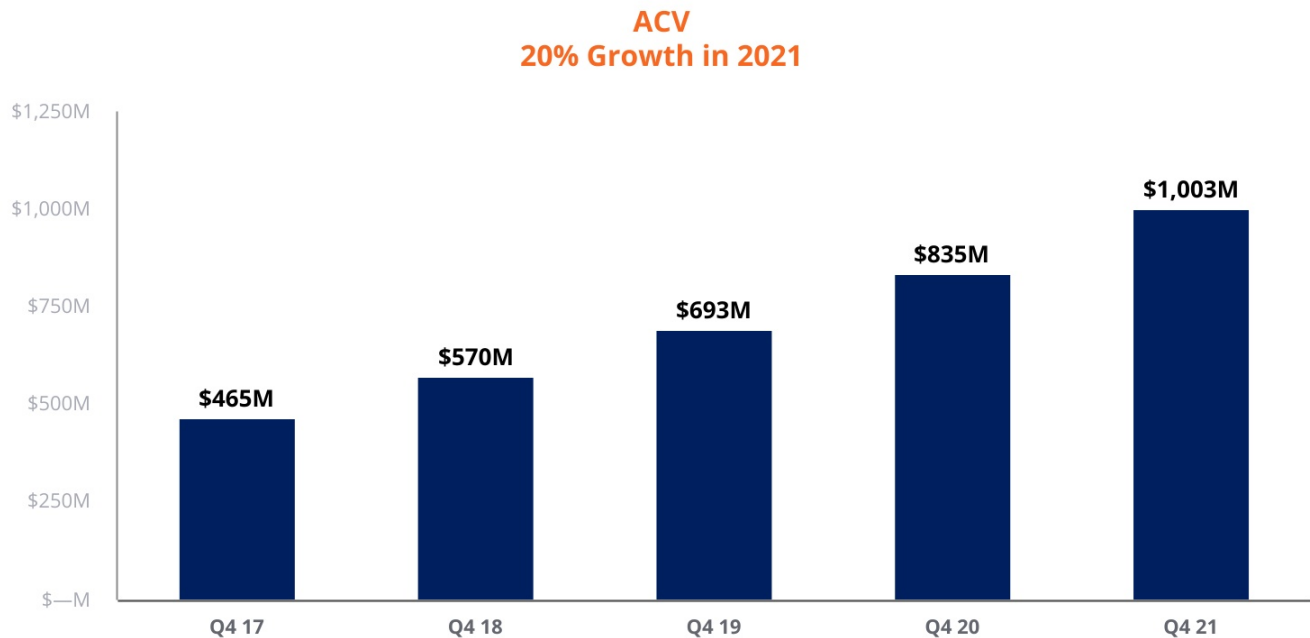
As of December 31, 2021, COVID-19 has not had a material impact on our results of operations or financial condition.

Performance metrics

We use performance metrics to analyze and assess our overall performance, make operating decisions, and forecast and plan for future periods, including:

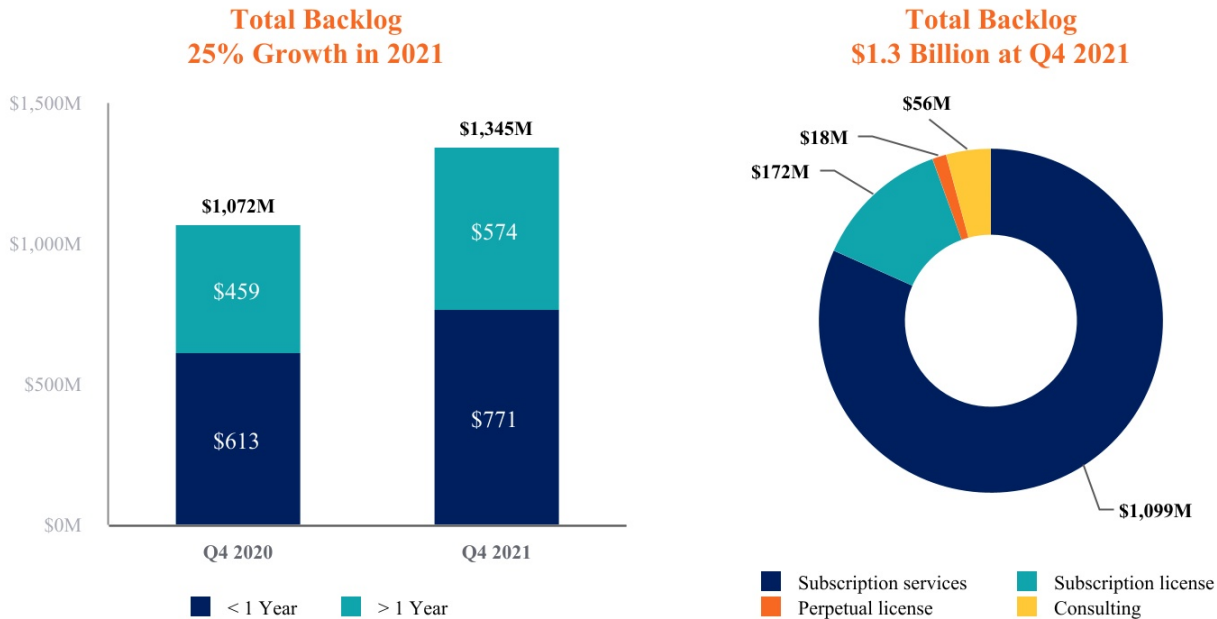
Annual contract value ("ACV") | Increased 20% since December 31, 2020

ACV represents the annualized value of our active contracts as of the measurement date. The contract's total value is divided by its duration in years to calculate ACV for term license and Pega Cloud contracts. Maintenance revenue for the quarter then ended is multiplied by four to calculate ACV for maintenance. ACV is a performance measure that we believe provides useful information to our management and investors, particularly during our subscription transition. Foreign currency exchange rate changes were a 1% headwind to ACV growth in 2021.



Remaining performance obligations (“Backlog”) | Increased 25% since December 31, 2020

Expected future revenue from existing non-cancellable contracts:



RESULTS OF OPERATIONS

Revenue

Subscription transition

We are transitioning our business to sell software primarily through subscription arrangements. This transition has impacted revenue growth as revenue is recognized differently for subscription services than for license sales. Revenue from Pega Cloud and maintenance arrangements is typically recognized over the contract term, while revenue from license sales is recognized when the license rights become effective, typically upfront.

	2021		2020		Change	
Pega Cloud	\$ 300,966	25 %	\$ 208,268	20 %	\$ 92,698	45 %
Maintenance	320,257	26 %	296,709	30 %	23,548	8 %
Subscription services	621,223	51 %	504,977	50 %	116,246	23 %
Subscription license ^(A)	336,248	28 %	266,352	26 %	69,896	26 %
Subscription	957,471	79 %	771,329	76 %	186,142	24 %
Perpetual license	32,172	3 %	28,558	3 %	3,614	13 %
Consulting	222,010	18 %	217,630	21 %	4,380	2 %
	<u>\$ 1,211,653</u>	<u>100 %</u>	<u>\$ 1,017,517</u>	<u>100 %</u>	<u>\$ 194,136</u>	<u>19 %</u>

^(A) Revenue from term licenses.

The change in revenue in 2021 generally reflects the impact of our subscription transition. Additional contributing factors were:

- An increasing portion of our term license contracts include multi-year committed maintenance periods instead of annually renewable maintenance. Under multi-year committed maintenance arrangements, a larger portion of the total contract value is recognized as maintenance revenue over the contract term rather than upon the effectiveness of the license rights as subscription license revenue. In 2021, multi-year committed maintenance contributed \$17.1 million to maintenance revenue growth and reduced subscription license revenue growth by \$4.0 million.
- Maintenance renewal rates remained over 90% in 2021.
- The increase in perpetual revenue was primarily due to license rights becoming effective in 2021 related to several large software license contracts entered into in prior years.
- The increase in consulting revenue in 2021 was primarily due to an increase in billable hours, which offset the impact of reduced billable travel expenses due to COVID-19. As part of our long-term strategy, we intend to continue growing and increasingly leveraging our ecosystem of partners on future implementation projects, potentially reducing our future consulting revenue growth rate.

Gross profit

(Dollars in thousands)

	2021		2020		Change				
Pega Cloud	\$	202,171	67 %	\$	131,693	63 %	\$	70,478	54 %
Maintenance		298,606	93 %		274,398	92 %		24,208	9 %
Subscription services		500,777	81 %		406,091	80 %		94,686	23 %
Subscription license		333,859	99 %		263,708	99 %		70,151	27 %
Subscription		834,636	87 %		669,799	87 %		164,837	25 %
Perpetual license		31,943	99 %		28,274	99 %		3,669	13 %
Consulting		8,711	4 %		8,531	4 %		180	2 %
	\$	875,290	72 %	\$	706,604	69 %	\$	168,686	24 %

The increase in gross profit in 2021 was primarily due to overall revenue growth and cost-efficiency gains as Pega Cloud grows and scales because of our subscription transition.

Operating expenses

(Dollars in thousands)

	2021		2020		Change				
		% of Revenue		% of Revenue					
Selling and marketing	\$	625,886	52 %	\$	545,693	54 %	\$	80,193	15 %
Research and development	\$	260,630	22 %	\$	236,986	23 %	\$	23,644	10 %
General and administrative	\$	83,506	7 %	\$	67,452	7 %	\$	16,054	24 %

- The increase in selling and marketing in 2021 was primarily due to an increase in compensation and benefits of \$82.7 million, attributable to increases in headcount and incentive compensation. The increase in headcount reflects our efforts to increase our sales capacity to deepen relationships with existing clients and target new accounts.
- The increase in research and development in 2021 was primarily due to an increase in compensation and benefits of \$24.8 million, attributable to increases in headcount and incentive compensation. The increase in headcount reflects additional investments in the development of our solutions, particularly for Pega Cloud.
- The increase in general and administrative in 2021 was primarily due to an increase of \$14.4 million in legal fees and related expenses arising from proceedings that originated outside of the ordinary course of business. We have incurred and expect to continue to incur additional expenses for these proceedings in 2022. See "Note 19. Commitments And Contingencies" in Item 8 of this Annual Report for additional information.
- In February 2021, we agreed to accelerate our exit from our prior Cambridge, Massachusetts headquarters to October 1, 2021, in exchange for a one-time payment from our landlord of \$18 million. This agreement was the primary contributor to decreases in facilities expenses of \$5.1 million in selling and marketing, \$5.6 million in research and development, and \$2.7 million in general and administrative, in 2021.

Other income and expenses

(Dollars in thousands)

	2021		2020		Change		
Foreign currency transaction (loss) gain	\$	(6,459)	\$	3,704	\$	(10,163)	*
Interest income		704		1,223		(519)	(42)%
Interest expense		(7,956)		(19,356)		11,400	59 %
(Loss) gain on capped call transactions		(23,633)		31,697		(55,330)	*
Other income, net		89		1,370		(1,281)	(94)%
	\$	(37,255)	\$	18,638	\$	(55,893)	*

* not meaningful

- The change in foreign currency transaction (loss) gain in 2021 was primarily due to the impact of fluctuations in foreign currency exchange rates associated with our foreign currency-denominated cash, receivables, and intercompany balances held by our subsidiary in the United Kingdom.
- The decrease in interest income in 2021 was primarily due to declines in market interest rates and invested funds.
- The decrease in interest expense in 2021 was primarily due to our adoption of Accounting Standards Update 2020-06 on January 1, 2021. See "Note 11. Debt" in Item 8 of this Annual Report for additional information.

Interest expense related to the Notes:

<i>(in thousands)</i>	2021	2020	Change
Contractual interest expense (0.75% coupon)	\$ 4,500	\$ 3,825	\$ 675
Amortization of debt discount	—	12,898	(12,898)
Amortization of issuance costs	2,977	1,915	1,062
	<u>\$ 7,477</u>	<u>\$ 18,638</u>	<u>\$ (11,161)</u>

- The decrease in the (loss) gain on capped call transactions in 2021 was due to fair value adjustments on the Capped Call Transactions. See "Note 11. Debt" in Item 8 of this Annual Report for additional information.
- The decrease in other income, net in 2021 was due to a smaller gain from our venture investments portfolio in 2021.

(Benefit from) income taxes

<i>(Dollars in thousands)</i>	2021	2020
(Benefit from) income taxes	\$ (68,947)	\$ (63,516)
Effective income tax benefit rate	52 %	51 %

During 2021, the change in our effective income tax benefit rate was primarily due to the impact of excess tax benefits from stock-based compensation and changes in statutory tax rates applicable to our U.K.-based deferred tax assets. See "Note 17. Income Taxes" in Item 8 of this Annual Report for additional information.

Stock-based compensation increases the variability of our effective tax rates. The impact on our effective tax rate in each period depends on our profitability and the tax deductions from our stock compensation activity, which depend upon our stock price and the award holders' exercise behavior.

LIQUIDITY AND CAPITAL RESOURCES

<i>(in thousands)</i>	2021	2020
Cash (used in) provided by		
Operating activities	\$ 39,118	\$ (563)
Investing activities	72,503	(321,683)
Financing activities	(121,843)	423,448
Effect of exchange rate on cash and cash equivalents	(1,712)	2,334
Net (decrease) increase in cash and cash equivalents	<u>\$ (11,934)</u>	<u>\$ 103,536</u>

<i>(in thousands)</i>	December 31,	
	2021	2020
Held in U.S. entities	\$ 274,813	\$ 399,138
Held in foreign entities	87,966	66,030
Total cash, cash equivalents, and marketable securities	<u>\$ 362,779</u>	<u>\$ 465,168</u>

We believe that our current cash, cash flow from operations, and borrowing capacity will be sufficient to fund our operations, stock repurchases, and quarterly cash dividends for at least the next 12 months and to meet our known long-term cash requirements. Whether these resources are adequate to meet our liquidity needs beyond that period will depend on our future growth, operating results, and the investments needed to support our operations. If we require additional capital resources, we may utilize available funds or additional external financing.

If it becomes necessary to repatriate foreign funds, we may have to pay U.S. and foreign taxes upon repatriation. Due to the complexity of income tax laws and regulations, it is impracticable to estimate the amount of taxes we would have to pay. See risk factor "If it becomes necessary or desirable to repatriate any of our foreign cash balances to the United States, we may be subject to increased taxes, other restrictions, and limitations" in Item 1A of this Annual Report for additional information.

Cash provided by (used in) operating activities

We are transitioning our business to sell software primarily through subscription arrangements. This transition has impacted and is expected to continue impacting our billings and cash collections, as the timing of billings and cash collections generally differs between our subscription and perpetual license arrangements. Subscription license and services are generally billed and collected over the contract term, while perpetual license arrangements usually are billed and collected upfront when the license rights become effective.

The change in cash provided by (used in) operating activities in 2021 was primarily due to a significant increase in client collections. In addition, in 2021 we incurred \$18.2 million in legal fees and related expenses arising from proceedings that originated outside of the ordinary course of business. We have incurred and expect to continue to incur additional expenses for these proceedings in 2022. See "Note 19. Commitments And Contingencies" in Item 8 of this Annual Report for additional information.

Corporate headquarters

In February 2021, we agreed to accelerate our exit from our previous corporate headquarters to October 1, 2021, in exchange for a one-time payment from our landlord of \$18 million, which was received in October 2021. The accelerated exit from this lease reduced our future lease liabilities by \$21.1 million. On March 31, 2021 we leased office space at One Main Street, Cambridge, Massachusetts, to serve as our corporate headquarters. The 4.5 year lease includes a base rent of \$2 million per year.

New Waltham Office

On July 6, 2021, we entered into an office space lease for 131 thousand square feet in Waltham, Massachusetts. The lease term of 11 years began on August 1, 2021. The annual rent equals the base rent plus a portion of building operating costs and real estate taxes. Rent first becomes payable on August 1, 2022. Base rent for the first year is approximately \$6 million and will increase by 3% annually. In addition, we will receive an improvement allowance from the landlord of up to \$11.8 million. This lease increased our lease liabilities and lease-related right of use assets by \$42.1 million on August 1, 2021.

Investing activities

The change in cash provided by (used in) investing activities in 2021 was primarily driven by investments in financial instruments, an acquisition, and a decrease in office space related capital expenditures.

Financing activities

Debt financing

In February 2020, we issued \$600 million in aggregate principal amount of convertible senior notes which mature on March 1, 2025.

<i>(in thousands)</i>	Amount
Principal	\$ 600,000
Less: issuance costs	(14,527)
Less: Capped Call Transactions	(51,900)
	<u>\$ 533,573</u>

In November 2019, and as amended as of February 2020, July 2020, and September 2020, we entered into a five-year \$100 million senior secured revolving credit agreement with PNC Bank, National Association. As of December 31, 2021, we had no outstanding borrowings under the Credit Facility.

See "Note 11. Debt" in Item 8 of this Annual Report for additional information.

Stock repurchase program

Changes in the remaining stock repurchase authority:

<i>(in thousands)</i>	2021
December 31, 2020	\$ 37,726
Authorizations ⁽¹⁾	38,467
Repurchases ⁽²⁾	(53,610)
December 31, 2021	<u>\$ 22,583</u>

(1) On June 8, 2021, we announced that our Board of Directors extended the current stock repurchase program's expiration date to June 30, 2022 and increased the remaining common stock repurchase authority to \$60 million.

(2) Purchases under this program have been made on the open market.

Common stock repurchases

<i>(in thousands)</i>	2021		2020	
	Shares	Amount	Shares	Amount
Repurchases paid	422	\$ 52,411	276	\$ 27,974
Repurchases unpaid at period end	10	1,199	2	300
Stock repurchase program	432	53,610	278	28,274
Tax withholdings for net settlement of equity awards	550	69,925	725	75,560
	<u>982</u>	<u>\$ 123,535</u>	<u>1,003</u>	<u>\$ 103,834</u>

During 2021 and 2020, instead of receiving cash from the equity holders, we withheld shares with a value of \$56.1 million and \$59.6 million, respectively, for the exercise price of options. These amounts have been excluded from the table above.

Dividends

(in thousands)

	2021	2020
Dividend payments to stockholders	\$ 9,761	\$ 9,628

We intend to pay a quarterly cash dividend of \$0.03 per share. However, the Board of Directors may terminate or modify the dividend program at any time without prior notice.

Contractual obligations

As of December 31, 2021, our contractual obligations were:

(in thousands)	Payments due by period						Total
	2022	2023	2024	2025	2026 and thereafter	Other	
Convertible senior notes ⁽¹⁾	\$ 4,500	\$ 4,500	\$ 4,500	\$ 602,250	\$ —	\$ —	\$ 615,750
Purchase obligations ⁽²⁾	102,452	11,989	2,569	479	—	—	117,489
Operating lease obligations	8,942	17,705	16,411	13,553	58,298	—	114,909
Liability for uncertain tax positions ⁽³⁾	—	—	—	—	—	1,690	1,690
	<u>\$ 115,894</u>	<u>\$ 34,194</u>	<u>\$ 23,480</u>	<u>\$ 616,282</u>	<u>\$ 58,298</u>	<u>\$ 1,690</u>	<u>\$ 849,838</u>

(1) Includes principal and interest.

(2) Represents the fixed or minimum amounts due under purchase obligations for hosting services and sales and marketing programs.

(3) We are unable to reasonably estimate the timing of the cash outflow due to uncertainties in the timing of the effective settlement of tax positions.

A detailed discussion and analysis of the 2020 year-over-year changes can be found in "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" of our Annual Report on Form 10-K for the year ended December 31, 2020.

CRITICAL ACCOUNTING ESTIMATES AND SIGNIFICANT JUDGMENTS

Management's discussion and analysis of the financial condition and results of operations is based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the U.S. and the rules and regulations of the U.S. Securities and Exchange Commission for annual financial reporting. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. We base our estimates and judgments on historical experience, knowledge of current conditions, and beliefs of what could occur in the future, given the available information.

We believe that, of our significant accounting policies, described in "Note 2. Significant Accounting Policies" in Item 8 of this Annual Report, the following accounting policies are most important to the portrayal of our financial condition and require the most subjective judgment. Accordingly, these are the policies we believe are the most critical to aid in fully understanding and evaluating our consolidated financial condition and results of operations. If actual results differ significantly from management's estimates and projections, there could be a material effect on our financial statements.

Revenue recognition

Our client contracts typically contain promises by us to provide multiple products and services. Specifically, contracts associated with Pega Platform sales and other software applications, sold either as licenses to use functional intellectual property or as a cloud-based solution, typically include consulting services. Determining whether such products and services within a client contract are considered distinct performance obligations that should be accounted for separately requires significant judgment. We review client contracts to identify all separate promises to transfer goods and services that would be considered performance obligations. Judgment is also required in determining whether an option to acquire additional products and services within a client contract represents a material right that the client would not receive without entering into that contract.

A contract modification is a legally binding change to the scope, price, or both of an existing contract. Contract modifications are reviewed to determine whether they should be accounted for as part of the original contract or as a separate contract. This determination requires significant judgment, which could impact the timing of revenue recognition. We typically account for contract modifications prospectively as a separate contract. The additional performance obligation(s) in our contract modifications are generally distinct and priced at their stand-alone selling price.

We allocate the transaction price to the distinct performance obligations, including options in contracts determined to represent a material right, based on each performance obligation's relative stand-alone selling price. Judgment is required in estimating stand-alone selling prices. We maximize the use of observable inputs by maintaining pricing analyses that consider our pricing policies, historical stand-alone sales when they exist, and historical renewal prices charged to clients. We have concluded that the stand-alone selling prices of certain performance obligations, specifically software licenses and Pega Cloud arrangements, are highly variable. In these instances, we estimate the stand-alone selling prices using the residual approach, determined based on total transaction price minus the stand-alone selling price of other performance obligations promised in the contract. We update our stand-alone selling price analysis periodically, including a re-assessment of whether the residual approach used to determine the stand-alone selling prices for software licenses and Pega Cloud arrangements remains appropriate.

Changes in the assumptions or judgments used in determining the performance obligations in client contracts and stand-alone selling prices could significantly impact the timing and amount of revenue we report in a particular period.

Goodwill and intangible assets impairment

Our goodwill and intangible assets result from our previous business acquisitions. Goodwill and intangible assets with indefinite useful lives are not amortized but are tested for impairment at least annually or as circumstances indicate their value may no longer be recoverable. We do not carry any intangible assets with indefinite useful lives other than goodwill. We perform our annual goodwill impairment test as of November 30th. To assess if goodwill is impaired, we first perform a qualitative assessment to determine whether further impairment testing is necessary. If based on the qualitative assessment, we consider it more-likely-than-not that our reporting unit's fair value is less than its carrying amount, we perform a quantitative impairment test. An excess of carrying value over fair value would indicate that goodwill may be impaired. We periodically reevaluate our business and have determined that we have one operating segment and one reporting unit. If our assumptions change in the future, we may be required to record impairment charges to reduce our goodwill's carrying value. Changes in the valuation of goodwill could materially impact our operating results and financial position.

We evaluate our intangible assets for impairment whenever events or changes in circumstances indicate that such assets' carrying amount may not be recoverable. In evaluating potential impairment of these assets, we specifically consider whether any indicators of impairment are present, including, but not limited to:

- whether there has been a significant adverse change in the business climate that affects the value of an asset;
- whether there has been a significant change in the extent or way an asset is used; and
- whether it is expected that the asset will be sold or disposed of before the end of its originally estimated useful life.

If indicators of impairment are present, we compare the estimated undiscounted cash flows that the asset is expected to generate to the carrying value. The key assumptions of the cash flow model involve significant subjectivity. If such assets are impaired, an impairment is measured by the amount by which the carrying amount of the asset exceeds its fair value.

As of December 31, 2021, we had \$81.9 million of goodwill and \$14.1 million of intangible assets. Changes in the valuation of long-lived assets could materially impact our operating results and financial position. To date, there have been no impairments of goodwill or intangible assets.

Accounting for income taxes

Significant judgment is required to determine our provision for income taxes and income tax assets and liabilities, including evaluating uncertainties in applying accounting principles and complex tax laws. Changes in tax laws or our interpretation of tax laws and the resolution of any tax audits could significantly impact our financial statements.

We regularly assess the need for a valuation allowance against our deferred tax assets. Future realization of our deferred tax assets ultimately depends on sufficient taxable income within the available carryback or carryforward periods. Changes in our valuation allowance impact income tax expense in the period of adjustment. Our deferred tax valuation allowance requires significant judgment and uncertainties, including assumptions about future taxable income based on historical and projected information.

We recognize deferred tax assets to the extent that we believe that these assets are more likely than not to be realized. In making such a determination, we consider all available objective and verifiable negative and positive evidence, including future reversals of existing taxable temporary differences, our firm contractual backlog, projected future taxable income (inclusive of the impact of enacted legislation), tax-planning strategies and results of recent operations. Based on our firm contractual backlog and our current projections of taxable income, we determined that it is more likely than not that we will be able to realize our net deferred tax asset as of December 31, 2021.

We assess our income tax positions and record tax benefits based upon management's evaluation of the facts, circumstances, and information available at the reporting date. For those tax positions where it is more-likely-than-not that a tax benefit will be sustained, we record the largest amount of tax benefit with a greater than 50 percent likelihood of being realized upon ultimate settlement with a taxing authority having full knowledge of all relevant information. For those income tax positions where it is not more-likely-than-not that a tax benefit will be sustained, no tax benefit is recognized in the financial statements.

As a global company, we use significant judgment to calculate and provide for income taxes in each of the tax jurisdictions in which we operate. In the ordinary course of our business, there are transactions and calculations undertaken whose ultimate tax outcome cannot be certain. Some of these uncertainties arise due to transfer pricing for transactions with our subsidiaries, the determination of tax nexus, and tax credit estimates. In addition, the calculation of acquired tax attributes and the associated limitations are complex. We estimate our exposure to unfavorable outcomes related to these uncertainties and estimate the probability of such outcomes.

Although we believe our estimates are reasonable, no guarantee can be given that the final tax outcome will not be different from what is reflected in our historical income tax provisions, returns, and accruals. Such differences, or changes in estimates relating to potential differences, could have a material impact on our income tax provision and operating results in the period in which such a determination is made.

See "Note 17. Income Taxes" in Item 8 of this Annual Report for additional information.

Capped call transactions

In February 2020, we issued Convertible Senior Notes (the "Notes") with an aggregate principal amount of \$600 million, due March 1, 2025, in a private placement. We also entered into privately negotiated capped call transactions ("Capped Call Transactions") with certain financial institutions. The Capped Call Transactions cover 4.4 million shares (representing the number of shares for which the Notes are initially convertible) of our common stock and are generally expected to reduce potential dilution of our common stock upon any conversion of the Notes.

The Capped Call Transactions are accounted for as derivative instruments and do not qualify for the Company's own equity scope exception in ASC 815 since, in some cases of early settlement, the settlement value of the Capped Call Transactions, calculated following the governing documents, may not represent a fair value measurement. Applying the accounting framework for the Capped Call Transactions requires the exercise of judgment and the determination of the fair value of the Capped Call Transactions requires us to make significant estimates and assumptions.

The fair value of the Capped Call Transactions at the end of each reporting period is determined using a Black-Scholes option-pricing model. The valuation models use various market-based inputs, including stock price, remaining contractual term, expected volatility, risk-free interest rate, and expected dividend yield. Management applies judgment when determining expected volatility. We consider both historical and implied volatility levels of the underlying equity security. As of December 31, 2021, a hypothetical 10% increase in our stock price would have increased the fair value of the capped call to \$72.4 million, while a hypothetical 10% decrease in our stock price would have decreased the fair value of the capped call to \$47.8 million.

See "Note 2. Significant Accounting Policies", "Note 11. Debt", and "Note 13. Fair Value Measurements" in Item 8 of this Annual Report for additional information.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Market risk represents the risk of loss that may affect us due to adverse changes in financial market prices and rates.

Foreign currency exposure

Translation risk

Our foreign operations' operating expenses are primarily denominated in foreign currencies. However, our international sales are also primarily denominated in foreign currencies, which partially offsets our foreign currency exposure.

A hypothetical 10% strengthening in the U.S. dollar against other currencies would result in the following impact:

	<u>2021</u>	<u>2020</u>	<u>2019</u>
(Decrease) in revenue	(4)%	(4)%	(4)%
Increase (decrease) in net income	1 %	12 %	(7)%

Remeasurement risk

We experience fluctuations in transaction gains or losses from remeasurement of monetary assets and liabilities denominated in currencies other than the functional currency of the entities in which they are recorded.

We are primarily exposed to changes in foreign currency exchange rates associated with the Australian dollar, Euro, and U.S. dollar-denominated cash and cash equivalents, accounts receivable, unbilled receivables, and intercompany receivables and payables held by our U.K. subsidiary, a British pound functional entity.

A hypothetical 10% strengthening in the British pound exchange rate against the Australian dollar, Euro, and U.S. dollar would result in the following impact:

	<u>December 31, 2021</u>	<u>December 31, 2020</u>	<u>December 31, 2019</u>
<i>(in thousands)</i> Foreign currency (loss) gain	\$ (8,352)	\$ (7,782)	\$ 3,633

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the stockholders and the Board of Directors of Pegasystems Inc.
Cambridge, Massachusetts

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Pegasystems Inc. and subsidiaries (the "Company") as of December 31, 2021 and 2020, the related consolidated statements of operations, comprehensive (loss), stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2021, and the related notes (collectively referred to as the "financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021, in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by COSO.

Basis for Opinions

The Company's management is responsible for these financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's report on and changes in internal control over financial reporting. Our responsibility is to express an opinion on these financial statements and an opinion on the Company's internal control over financial reporting 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 audits to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the financial statements included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures to respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the 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. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed 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. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) 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 management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current-period audit of the financial statements that was communicated or required to be communicated to the audit committee and that (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Revenue Recognition - Software License Arrangements — Refer to Note 2 to the financial statements

Critical Audit Matter Description

The Company generates revenue from multiple sources, including software license revenue primarily derived from license sales of the Company's Pega Platform and other software applications, maintenance revenue from client support, and services revenue primarily derived from cloud sales of the Company's hosted Pega Platform and other software applications and consulting services.

The Company's license and cloud contracts with clients ("arrangements") often contain multiple performance obligations. These performance obligations may be included in the same contract or negotiated separately. Additionally, the Company enters into amendments to previously executed contracts which constitute contract modifications. Certain complex arrangements require that management performs a detailed analysis of the contractual terms and the application of more complex accounting guidance. Factors with potentially significant judgements include:

- Identification of the complete client arrangement
- Accounting treatment of contract modifications
- Valuation and allocation of identified material rights
- Allocation of arrangement consideration to bundled fixed price work orders

Given the accounting complexity and the management judgment necessary to properly identify, classify, and account for performance obligations, auditing such estimates involved a high degree of auditor judgment when performing audit procedures and evaluating the license and cloud revenue arrangements.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to license and cloud revenue arrangements included the following, among others:

- We tested the effectiveness of controls over revenue recognition, including those over the identification of performance obligations included in the transaction, accounting treatment of contract modifications, valuation and allocation of identified material rights, and allocation of arrangement consideration.
- We selected a sample of client arrangements, and performed the following:
 - Evaluated whether the Company properly identified the terms of the arrangements and considered all arrangement terms that may have an impact on revenue recognition.
 - Evaluated whether the Company appropriately identified all performance obligations in the arrangement and whether the methodology to allocate the transaction price to the individual performance obligations was appropriately applied.
 - Tested the accuracy of management's calculation of revenue for each performance obligation by developing an expectation for the revenue to be recorded in the current period and comparing it to the Company's recorded balances.
 - Evaluated management's assessment of any ongoing negotiations with clients and bundling with statements of work.
 - Analyzed the proper accounting treatment for any contract modifications based on 1) whether the additional products and services are distinct from the products and services in the original arrangement, and 2) whether the amount of consideration expected for the added products and services reflects the stand-alone selling price of those products and services.
 - Evaluated management's determination of whether certain renewal clauses, additional product offers, or additional usage offers represent material rights included in the contract and whether they were properly valued based on the incremental discount provided and the probability of the right being exercised.
 - For contracts with a performance obligation of bundled fixed price services, evaluated whether management reasonably estimated the number of hours that each project will require and independently recalculated the stand-alone selling price for each bundled fixed price service.
 - Obtained evidence of delivery of the elements of the arrangement to the client.

/s/ Deloitte & Touche LLP

Boston, Massachusetts

February 16, 2022

We have served as the Company's auditor since 2000.

PEGASYSTEMS INC.
CONSOLIDATED BALANCE SHEETS
(in thousands, except per share amounts)

	December 31, 2021	December 31, 2020
Assets		
Current assets:		
Cash and cash equivalents	\$ 159,965	\$ 171,899
Marketable securities	202,814	293,269
Total cash, cash equivalents, and marketable securities	362,779	465,168
Accounts receivable	182,717	215,827
Unbilled receivables	226,714	207,155
Other current assets	68,008	88,760
Total current assets	840,218	976,910
Unbilled receivables	129,789	113,278
Goodwill	81,923	79,231
Other long-term assets	541,601	434,843
Total assets	<u>\$ 1,593,531</u>	<u>\$ 1,604,262</u>
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	\$ 15,281	\$ 24,028
Accrued expenses	63,890	59,261
Accrued compensation and related expenses	120,946	123,012
Deferred revenue	275,844	232,865
Other current liabilities	9,443	20,969
Total current liabilities	485,404	460,135
Convertible senior notes, net	590,722	518,203
Operating lease liabilities	87,818	59,053
Other long-term liabilities	13,499	24,699
Total liabilities	1,177,443	1,062,090
Commitments and contingencies (Note 19)		
Stockholders' equity:		
Preferred stock, \$0.01 par value, 1,000 shares authorized; none issued	—	—
Common stock, \$0.01 par value, 200,000 shares authorized; 81,712 and 80,890 shares issued and outstanding as of December 31, 2021 and 2020, respectively	817	809
Additional paid-in capital	145,810	204,432
Retained earnings	276,449	339,879
Accumulated other comprehensive (loss)		
Net unrealized gain on available-for-sale securities, net of tax	686	46
Foreign currency translation adjustments	(7,674)	(2,994)
Total stockholders' equity	416,088	542,172
Total liabilities and stockholders' equity	<u>\$ 1,593,531</u>	<u>\$ 1,604,262</u>

See notes to consolidated financial statements.

PEGASYSTEMS INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except per share amounts)

	Year Ended December 31,		
	2021	2020	2019
Revenue			
Subscription services	\$ 621,223	\$ 504,977	\$ 414,326
Subscription license	336,248	266,352	199,433
Perpetual license	32,172	28,558	80,015
Consulting	222,010	217,630	217,609
Total revenue	<u>1,211,653</u>	<u>1,017,517</u>	<u>911,383</u>
Cost of revenue			
Subscription services	120,446	98,886	91,484
Subscription license	2,389	2,644	2,609
Perpetual license	229	284	1,047
Consulting	213,299	209,099	214,882
Total cost of revenue	<u>336,363</u>	<u>310,913</u>	<u>310,022</u>
Gross profit	875,290	706,604	601,361
Operating expenses			
Selling and marketing	625,886	545,693	474,459
Research and development	260,630	236,986	205,210
General and administrative	83,506	67,452	56,570
Total operating expenses	<u>970,022</u>	<u>850,131</u>	<u>736,239</u>
(Loss) from operations	(94,732)	(143,527)	(134,878)
Foreign currency transaction (loss) gain	(6,459)	3,704	(2,335)
Interest income	704	1,223	2,020
Interest expense	(7,956)	(19,356)	(212)
(Loss) gain on capped call transactions	(23,633)	31,697	—
Other income, net	89	1,370	559
(Loss) before (benefit from) income taxes	<u>(131,987)</u>	<u>(124,889)</u>	<u>(134,846)</u>
(Benefit from) income taxes	(68,947)	(63,516)	(44,413)
Net (loss)	<u>\$ (63,040)</u>	<u>\$ (61,373)</u>	<u>\$ (90,433)</u>
(Loss) per share			
Basic	\$ (0.77)	\$ (0.76)	\$ (1.14)
Diluted	\$ (0.77)	\$ (0.76)	\$ (1.14)
Weighted-average number of common shares outstanding			
Basic	81,387	80,336	79,055
Diluted	81,387	80,336	79,055

See notes to consolidated financial statements.

PEGASYSTEMS INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE (LOSS)
(in thousands)

	Year Ended December 31,		
	2021	2020	2019
Net (loss)	\$ (63,040)	\$ (61,373)	\$ (90,433)
Other comprehensive (loss) income, net of tax			
Unrealized gain on available-for-sale securities	640	46	249
Foreign currency translation adjustments	(4,680)	10,234	(155)
Total other comprehensive (loss) income, net of tax	(4,040)	10,280	94
Comprehensive (loss)	<u>\$ (67,080)</u>	<u>\$ (51,093)</u>	<u>\$ (90,339)</u>

See notes to consolidated financial statements.

PEGASYSTEMS INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in thousands, except per share amounts)

	Common Stock		Additional paid-In capital	Retained earnings	Accumulated other comprehensive (loss)	Total stockholders' equity
	Number of shares	Amount				
January 1, 2019	78,526	\$ 785	\$ 123,205	\$ 510,863	\$ (13,322)	\$ 621,531
Repurchase of common stock	(333)	(3)	(21,133)	—	—	(21,136)
Issuance of common stock for stock compensation plans	1,375	14	(44,853)	—	—	(44,839)
Issuance of common stock under the employee stock purchase plan	31	—	2,202	—	—	2,202
Stock-based compensation	—	—	81,102	—	—	81,102
Cash dividends declared (\$0.12 per share)	—	—	—	(9,511)	—	(9,511)
Other comprehensive income	—	—	—	—	94	94
Net (loss)	—	—	—	(90,433)	—	(90,433)
December 31, 2019	79,599	\$ 796	\$ 140,523	\$ 410,919	\$ (13,228)	\$ 539,010
Equity component of convertible senior notes, net	—	—	61,604	—	—	61,604
Repurchase of common stock	(278)	(3)	(28,271)	—	—	(28,274)
Issuance of common stock for stock compensation plans	1,536	16	(75,578)	—	—	(75,562)
Issuance of common stock under the employee stock purchase plan	33	—	3,039	—	—	3,039
Stock-based compensation	—	—	103,115	—	—	103,115
Cash dividends declared (\$0.12 per share)	—	—	—	(9,667)	—	(9,667)
Other comprehensive income	—	—	—	—	10,280	10,280
Net (loss)	—	—	—	(61,373)	—	(61,373)
December 31, 2020	80,890	\$ 809	\$ 204,432	\$ 339,879	\$ (2,948)	\$ 542,172
Cumulative-effect adjustment from adoption of ASU 2020-06	—	—	(61,604)	9,399	—	(52,205)
Repurchase of common stock	(432)	(5)	(53,605)	—	—	(53,610)
Issuance of common stock for stock compensation plans	1,153	12	(69,937)	—	—	(69,925)
Issuance of common stock under the employee stock purchase plan	101	1	10,553	—	—	10,554
Stock-based compensation	—	—	115,971	—	—	115,971
Cash dividends declared (\$0.12 per share)	—	—	—	(9,789)	—	(9,789)
Other comprehensive (loss)	—	—	—	—	(4,040)	(4,040)
Net (loss)	—	—	—	(63,040)	—	(63,040)
December 31, 2021	81,712	\$ 817	\$ 145,810	\$ 276,449	\$ (6,988)	\$ 416,088

See notes to consolidated financial statements.

PEGASYSTEMS INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Year Ended December 31,		
	2021	2020	2019
Operating activities			
Net (loss)	\$ (63,040)	\$ (61,373)	\$ (90,433)
Adjustments to reconcile net (loss) to cash provided by (used in) operating activities			
Stock-based compensation	115,947	103,068	80,909
Deferred income taxes	(75,336)	(59,777)	(49,317)
Loss (gain) on capped call transactions	23,633	(31,697)	—
Amortization of deferred commissions	41,387	33,302	29,152
Lease expense	13,277	16,248	14,497
Amortization of debt discount and issuance costs	2,977	14,813	—
Amortization of intangible assets and depreciation	28,593	21,348	21,396
Amortization of investments	3,721	1,073	800
Foreign currency transaction loss (gain)	6,459	(3,704)	2,335
Other	1,032	(879)	(521)
Change in operating assets and liabilities:			
Accounts receivable, unbilled receivables, and contract assets	(11,957)	(32,321)	1,088
Other current assets	17,209	(12,959)	(6,344)
Other current liabilities	(18,726)	37,945	25,670
Deferred revenue	41,279	43,661	1,937
Deferred commissions	(71,451)	(55,175)	(49,746)
Other long-term assets and liabilities	(15,886)	(14,136)	(23,588)
Cash provided by (used in) operating activities	<u>39,118</u>	<u>(563)</u>	<u>(42,165)</u>
Investing activities			
Purchases of investments	(79,121)	(326,549)	(11,424)
Proceeds from maturities and called investments	105,977	28,811	13,634
Sales of investments	61,096	1,424	89,406
Payments for acquisitions, net of cash acquired	(4,993)	—	(10,934)
Investment in property and equipment	(10,456)	(25,369)	(10,608)
Cash provided by (used in) investing activities	<u>72,503</u>	<u>(321,683)</u>	<u>70,074</u>
Financing activities			
Proceeds from issuance of convertible senior notes	—	600,000	—
Purchase of capped calls related to convertible senior notes	—	(51,900)	—
Payment of debt issuance costs	—	(14,527)	—
Proceeds from employee stock purchase plan	10,554	3,039	2,202
Dividend payments to stockholders	(9,761)	(9,628)	(9,486)
Proceeds from revolving credit facility	—	—	45,000
Payments on revolving credit facility	—	—	(45,000)
Common stock repurchases for tax withholdings for net settlement of equity awards	(69,925)	(75,562)	(44,839)
Common stock repurchases under stock repurchase program	(52,711)	(27,974)	(22,135)
Cash (used in) provided by financing activities	<u>(121,843)</u>	<u>423,448</u>	<u>(74,258)</u>
Effect of exchange rate changes on cash and cash equivalents	(1,712)	2,334	290
Net (decrease) increase in cash and cash equivalents	<u>(11,934)</u>	<u>103,536</u>	<u>(46,059)</u>
Cash and cash equivalents, beginning of period	171,899	68,363	114,422
Cash and cash equivalents, end of period	<u>\$ 159,965</u>	<u>\$ 171,899</u>	<u>\$ 68,363</u>
Supplemental disclosures			
Interest paid on convertible notes	\$ 4,500	\$ 2,338	\$ —
Income taxes (refunded) paid	\$ (4,552)	\$ 3,377	\$ 4,745
Non-cash investing and financing activity:			
Dividends payable	\$ 2,454	\$ 2,428	\$ 2,388

See notes to consolidated financial statements.

PEGASYSTEMS INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. BASIS OF PRESENTATION

Business

The Company develops, markets, licenses, and supports customer engagement and digital process automation software applications in addition to the Pega Platform™ for clients that wish to build and extend their own applications. The Company provides consulting, training, support, and hosting services to facilitate the use of its software.

Management estimates and reporting

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America (“U.S.”) requires management to make estimates and judgments that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the periods presented. Actual results could differ from those estimates. Accounts with reported amounts based on significant estimates and judgments include, but are not limited to, revenue, unbilled receivables, deferred revenue, deferred income taxes, deferred commissions, income taxes payable, convertible senior notes, capped call transactions, intangible assets, and goodwill.

Principles of consolidation

The Company’s consolidated financial statements reflect Pegasystems Inc. and subsidiaries in which the Company holds a controlling financial interest. All intercompany accounts and transactions were eliminated in consolidation.

Reclassifications

Certain prior period amounts reported in our consolidated financial statements and notes thereto have been reclassified to conform to the current year presentation. Such reclassifications did not affect total revenues, operating income, or net income.

2. SIGNIFICANT ACCOUNTING POLICIES

Revenue

The Company’s revenue is primarily derived from:

- Subscription services, which is composed of revenue from Pega Cloud and maintenance. Pega Cloud is the Company’s hosted Pega Platform and software applications. Maintenance revenue is earned from providing client support, software upgrades, and bug fixes or patches.
- Subscription license, which is composed of revenue from term license arrangements for the Company’s Pega Platform and software applications. Term licenses represent functional intellectual property and are delivered separately from maintenance and services.
- Perpetual license, which is composed of revenue under perpetual license arrangements for the Company’s Pega Platform and software applications. Perpetual licenses represent functional intellectual property and are delivered separately from maintenance and services.
- Consulting, which is primarily related to new software license implementations, training, and reimbursable costs.

Performance obligations

The Company’s software license and Pega Cloud arrangements often contain multiple performance obligations. If a contract contains multiple performance obligations, the Company accounts for each distinct performance obligation separately. The transaction price is allocated to the separate performance obligations on a relative stand-alone selling price basis. Any discounts or expected potential future price concessions are considered when determining the total transaction price. The Company’s policy is to exclude sales and similar taxes collected from clients from the determination of transaction price.

The Company's typical performance obligations are:

Performance obligation	How standalone selling price is typically determined	When performance obligation is typically satisfied	When payment is typically Due	Income statement line item
Perpetual license	Residual approach	Upon transfer of control to the client, defined as when the client can use and benefit from the license (point in time)	Effective date of the license	Perpetual License
Term license	Residual approach	Upon transfer of control to the client, defined as when the client can use and benefit from the license (point in time)	Annually, or more frequently, over the term of the license	Subscription license
Maintenance	Consistent pricing relationship as a percentage of the related license and observable in stand-alone renewal transactions ⁽¹⁾	Ratably over the term of the maintenance (over time)	Annually, or more frequently, over the term of the maintenance	Subscription services
Pega Cloud	Residual approach	Ratably over the term of the service (over time)	Annually, or more frequently, over the term of the service	Subscription services
Consulting - time and materials	Observable hourly rate for time and materials-based services in similar geographies	Based on hours incurred to date (over time)	Monthly	Consulting
Consulting - fixed price	Observable hourly rate for time and materials-based services in similar geographies multiplied by estimated hours for the project	Based on hours incurred as a percentage of total estimated hours (over time)	As contract milestones are achieved	Consulting

(1) Technical support and software updates are considered distinct services but accounted for as a single performance obligation, as they have the same pattern of transfer to the client.

The Company utilizes the residual approach for software license and Pega Cloud performance obligations since the selling price is highly variable and stand-alone selling price is not discernible from past transactions or other observable evidence. Periodically, the Company reevaluates whether the residual approach remains appropriate. As required, the Company evaluates its residual approach estimate compared to all available observable data before concluding the estimate is representative of its stand-alone selling price.

If the contract grants the client the option to acquire additional products or services, the Company assesses whether the option represents a material right to the client that the client would not receive without entering into that contract. Discounts on options to purchase additional products and services greater than discounts available to similar clients are accounted for as an additional performance obligation.

During most of each client contract term, the amount invoiced is generally less than the amount of revenue recognized to date, primarily because we transfer control of the performance obligation related to the software license at the inception of the contract term. A significant portion of the total contract consideration is typically allocated to the license performance obligation. Therefore, our contracts often result in the recording of unbilled receivables and contract assets throughout most of the contract term. The Company records an unbilled receivable or contract asset when revenue recognized on a contract exceeds the billings. The Company recognizes an impairment on receivables and contract assets if, after contract inception, it becomes probable that payment is not collectible. The Company reviews receivables and contract assets on an individual basis for impairment.

Variable consideration

The Company's arrangements can include variable fees, such as the option to purchase additional usage of a previously delivered software license. The Company may also provide pricing concessions to clients, a business practice that also gives rise to variable fees in contracts. For variable fees arising from the client's acquisition of additional usage of a previously delivered software license, the Company applies the sales and usage-based royalties guidance related to a license of intellectual property and recognizes the revenue in the period the underlying sale or usage occurs. The Company includes variable fees in the determination of total transaction price if it is not probable that a future significant reversal of revenue will occur. The Company uses the expected value or most likely value amount, whichever is more appropriate for specific circumstances, to estimate variable consideration, and the estimates are based on the level of historical price concessions offered to clients. The variable consideration related to pricing concessions and other forms of variable consideration, including usage-based fees, have not been material to the Company's consolidated financial statements.

Significant financing components

The Company generally does not intend to provide financing to its clients, as financing arrangements are not contemplated as part of the negotiated terms of contracts between the Company and its clients. Although there may be instances with an intervening period between the delivery of the license and the payment, typically in term license arrangements, the purpose of that timing difference is to align the client's payment with the timing of the use of the software license or service.

In certain circumstances, however, there are instances where revenue recognition timing differs from the timing of payment due to extended payment terms or fees that are non-proportional to the associated usage of software licenses. In these instances, the Company evaluates whether a significant financing component exists. This evaluation includes determining the difference between the consideration the client would have paid at the time the performance obligation was satisfied and the amount of consideration actually paid. Contracts that include a significant financing component are adjusted for the time value of money at the rate inherent in the contract, the client's borrowing rate, or the Company's incremental borrowing rate, depending upon the recipient of the financing.

During 2021, 2020, and 2019, significant financing components were not material.

Contract modifications

The Company assesses contract modifications to determine:

- if the additional products and services are distinct from the products and services in the original arrangement; and
- if the amount of consideration expected for the added products and services reflects the stand-alone selling price of those products and services.

A contract modification meeting both criteria is accounted for as a separate contract. A contract modification not meeting both criteria is considered a change to the original contract and is accounted for on either:

- a prospective basis as a termination of the existing contract and the creation of a new contract; or
- a cumulative catch-up basis.

Deferred commissions

The Company recognizes an asset for the incremental costs of obtaining a client contract, primarily related to sales commissions. The Company expects to benefit from those costs for more than one year, as the Company primarily pays sales commissions on the initial contract. As a result, there are no commensurate commissions paid on contract renewals. Deferred commissions are allocated to each performance obligation within the contract and amortized according to the transfer of underlying goods and services within those contracts and expected renewals. The expected benefit period is determined based on the length of the client contracts, client attrition rates, the underlying technology life-cycle, and the competitive marketplace's influence in which the products and services are sold. Deferred costs allocated to maintenance and deferred costs for Pega Cloud arrangements are amortized over an average expected benefit period of five years. Deferred costs allocated to software licenses, and any expected renewals of term software licenses within the five years expected benefit period, are amortized at the point in time control of the software license is transferred. Deferred costs allocated to consulting are amortized over a period consistent with the pattern of transfer of control for the related services.

Financial instruments

The principal financial instruments held by the Company consist of cash equivalents, marketable securities, receivables, capped call transactions, and accounts payable. The Company considers debt securities that are readily convertible to known amounts of cash with maturities of three months or less from the purchase date to be cash equivalents. Interest is recorded when earned. The Company's investments are classified as available-for-sale and are carried at fair value. Unrealized gains and losses considered temporary in nature are recorded as a component of accumulated other comprehensive (loss), net of related income taxes. The Company reviews all investments for reductions in fair value that are other-than-temporary. When such reductions occur, the investment cost is adjusted to fair value by recording a loss on investments in the consolidated statements of operations. Gains and losses on investments are calculated based upon the specific investment.

See "Note 4. Receivables, Contract Assets, And Deferred Revenue", "Note 11. Debt", and "Note 13. Fair Value Measurements" for additional information.

Property and equipment

Property and equipment are recorded at cost. Depreciation and amortization are computed using the straight-line method over the estimated useful lives of the assets, which are three years for computer equipment and five years for furniture and fixtures. Leasehold improvements are amortized over the lesser of the lease's term or the useful life of the asset. Repairs and maintenance costs are expensed as incurred.

Leases

All the Company's leases are operating leases, primarily composed of office space leases. The Company accounts for a contract as a lease when it has the right to control the asset for a period of time while obtaining substantially all of the asset's economic benefits. The Company determines the initial classification and measurement of its operating right of use assets and lease liabilities at the lease commencement date and thereafter if modified. Fixed lease costs are recognized on a straight-line basis over the term of the lease. Variable lease costs are recognized in the period in which the obligation for those payments is incurred. The Company combines lease and non-lease components in the determination of lease costs for its office space leases. The lease liability includes lease payments related to options to extend or renew the lease term if the Company is reasonably certain it will exercise those options. The Company's leases do not contain any material residual value guarantees or restrictive covenants.

Loss contingencies and legal costs

The Company accrues loss contingencies when it is probable that a liability has been incurred and the amount of the loss can be reasonably estimated.

Significant judgments are required for the determination of probability and the range of the outcomes, and the estimates are based only on the information available at the time. Due to the inherent uncertainties involved in claims, legal proceedings, and in estimating the losses that may arise, actual outcomes may differ from the Company's estimates. Contingencies deemed not probable or for which losses were not estimable in one period may become probable, or losses may become estimable in later periods which may have a material impact on the Company's results of operations and financial position. As additional information becomes available, the Company reassesses the potential liability related to its pending claims and litigation and may revise its estimates. Regardless of the outcome, legal disputes can have a material effect on the Company because of defense and settlement costs, diversion of management resources and other factors. Legal costs are expensed as incurred.

Internal-use software

The Company capitalizes and amortizes certain direct costs associated with computer software developed or purchased for internal use incurred during the application development stage. Costs related to preliminary project activities and post-implementation activities are expensed as incurred. The Company amortizes capitalized software costs generally over three to five years, commencing on the date the software is placed into service.

Goodwill

Goodwill represents the residual purchase price paid in a business combination after the fair value of all identified assets and liabilities have been recorded. Goodwill is not amortized. The Company has a single reporting unit. The Company performed a qualitative assessment as of November 30, 2021, 2020, and 2019, and concluded that there was no impairment since it was not more-likely-than-not that the fair value of its reporting unit was less than its carrying value.

Intangible and long-lived assets

The Company's intangible assets are amortized using the straight-line method over their estimated useful life. The Company evaluates its long-lived tangible and intangible assets for impairment whenever events or changes in circumstances indicate that such assets' carrying amount may not be recoverable. Impairment is assessed by comparing the undiscounted cash flows expected to be generated by the long-lived tangible or intangible assets to their carrying value. If impairment exists, the Company calculates the impairment by comparing the carrying value to its fair value as determined by discounted expected cash flows.

Cash equivalents

Cash equivalents include money market funds, time deposits, and other investments with original maturities of three months or less.

Business combinations

The Company uses its estimates and assumptions to assign a fair value to the tangible and intangible assets acquired and liabilities assumed at the acquisition date. The Company's estimates are inherently uncertain and subject to refinement. During the measurement period, which may be up to one year from the acquisition date, the Company may record adjustments to the fair value of these tangible and intangible assets acquired and liabilities assumed, with the corresponding offset to goodwill. In addition, uncertain tax positions and tax-related valuation allowances are initially established in connection with a business combination as of the acquisition date. The Company continues to collect information and reevaluates these estimates and assumptions quarterly and records any adjustments to the Company's preliminary estimates to goodwill provided that the Company is within the measurement period. Upon the conclusion of the measurement period or final determination of the fair value of assets acquired or liabilities assumed, whichever comes first, any subsequent adjustments are recorded to the Company's consolidated statements of operations.

Research and development and software development costs

Research and development costs are expensed as incurred. Capitalization of computer software developed for resale begins upon the establishment of technological feasibility, generally demonstrated by a working model or an operative version of the computer software product. Such costs have not been material to date, as technological feasibility is established within a short time frame from the software's general availability. As a result, no costs were capitalized in 2021, 2020, or 2019.

Stock-based compensation

The Company recognizes stock-based compensation expense associated with equity awards based on the award's fair value at the grant date. Stock-based compensation is recognized over the requisite service period, which is generally the vesting period of the equity award and is adjusted each period for anticipated forfeitures. See "Note 15. Stock-Based Compensation" for discussion of the Company's key assumptions included in determining the fair value of its equity awards at the grant date.

Foreign currency translation and remeasurement

The translation of assets and liabilities for the Company's subsidiaries with functional currencies other than the U.S. dollar are made at period-end exchange rates. Revenue and expense accounts are translated at the average exchange rates during the period transactions occur. The resulting translation adjustments are reflected in accumulated other comprehensive (loss). Realized and unrealized exchange gains or losses from transactions and remeasurement adjustments are reflected in foreign currency transaction gain (loss) in the accompanying consolidated statements of operations.

Accounting for income taxes

The Company uses the asset and liability method of accounting for income taxes. Under this method, deferred tax assets and liabilities are determined based on temporary differences between the financial statement and tax basis of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. The Company regularly assesses the need for a valuation allowance against its deferred tax assets. Future realization of the Company's deferred tax assets ultimately depends on sufficient taxable income within the available carryback or carryforward periods. Taxable income sources include taxable income in prior carryback years, future reversals of existing taxable temporary differences, the Company's firm contractual backlog, tax planning strategies, and projected future taxable income. The Company records a valuation allowance to reduce its deferred tax assets to an amount it believes is more-likely-than-not to be realized. Changes in the valuation allowance impact income tax expense in the period of adjustment. The Company recognizes excess tax benefits when they are realized, as a reduction of the provision for income taxes.

The Company assesses its income tax positions and records tax benefits based upon management's evaluation of the facts, circumstances, and information available at the reporting date. For those tax positions where it is more-likely-than-not that a tax benefit will be sustained, the Company records the largest amount of tax benefit with a greater than 50 percent likelihood of being realized upon ultimate settlement with a taxing authority having full knowledge of all relevant information. For those income tax positions where it is not more-likely-than-not that a tax benefit will be sustained, no tax benefit is recognized in the financial statements. The Company classifies liabilities for uncertain tax positions as non-current liabilities unless the uncertainty is expected to be resolved within one year. The Company classifies interest and penalties on uncertain tax positions as income tax expense.

As a global company, significant judgment must be used to calculate and provide for income taxes in each of the tax jurisdictions in which it operates. In the ordinary course of the Company's business, there are transactions and calculations undertaken whose ultimate tax outcome cannot be certain. Some of these uncertainties arise because of transfer pricing for transactions with the Company's subsidiaries and nexus and tax credit estimates. In addition, the calculation of acquired tax attributes and the associated limitations are complex. See "Note 17. Income Taxes" for additional information.

Advertising expense

Advertising costs are expensed as incurred. Advertising expenses were \$11.8 million, \$8.7 million, and \$6.7 million during 2021, 2020, and 2019, respectively.

3. MARKETABLE SECURITIES

(in thousands)	December 31, 2021				December 31, 2020			
	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
Government debt	\$ 2,000	\$ —	\$ (10)	\$ 1,990	\$ 39,996	\$ —	\$ (8)	\$ 39,988
Corporate debt	201,659	2	(837)	200,824	253,345	88	(152)	253,281
	<u>\$ 203,659</u>	<u>\$ 2</u>	<u>\$ (847)</u>	<u>\$ 202,814</u>	<u>\$ 293,341</u>	<u>\$ 88</u>	<u>\$ (160)</u>	<u>\$ 293,269</u>

As of December 31, 2021, marketable securities' maturities ranged from January 2022 to September 2024, with a weighted-average remaining maturity of 1.2 years.

4. RECEIVABLES, CONTRACT ASSETS, AND DEFERRED REVENUE

Receivables

(in thousands)	December 31, 2021	December 31, 2020
Accounts receivable	\$ 182,717	\$ 215,827
Unbilled receivables	226,714	207,155
Long-term unbilled receivables	129,789	113,278
	<u>\$ 539,220</u>	<u>\$ 536,260</u>

Unbilled receivables

Unbilled receivables are client-committed amounts for which revenue recognition precedes billing, and billing is solely subject to the passage of time.

Unbilled receivables by expected billing date:

(Dollars in thousands)

	December 31, 2021	
1 year or less	\$ 226,714	64 %
1-2 years	83,988	23 %
2-5 years	45,801	13 %
	<u>\$ 356,503</u>	<u>100 %</u>

Unbilled receivables by contract effective date:

(Dollars in thousands)

	December 31, 2021	
2021	\$ 182,427	51 %
2020	104,416	29 %
2019	34,544	10 %
2018	16,296	5 %
2017 and prior	18,820	5 %
	<u>\$ 356,503</u>	<u>100 %</u>

Major clients

Clients that represented 10% or more of the Company's total accounts receivable and unbilled receivables:

	December 31, 2021	December 31, 2020
Client A	10 %	*

* Client accounted for less than 10% of total accounts receivable and unbilled receivables.

Contract assets

Contract assets are client-committed amounts for which revenue recognized exceeds the amount billed to the client, and billing is subject to conditions other than the passage of time, such as completing a related performance obligation.

(in thousands)

	December 31, 2021	December 31, 2020
Contract assets ⁽¹⁾	\$ 12,530	\$ 15,296
Long-term contract assets ⁽²⁾	10,643	7,777
	<u>\$ 23,173</u>	<u>\$ 23,073</u>

(1) Included in other current assets.

(2) Included in other long-term assets.

Deferred revenue

Deferred revenue consists of billings and payments received in advance of revenue recognition.

(in thousands)

	December 31, 2021	December 31, 2020
Deferred revenue	\$ 275,844	\$ 232,865
Long-term deferred revenue ⁽¹⁾	5,655	8,991
	<u>\$ 281,499</u>	<u>\$ 241,856</u>

(1) Included in other long-term liabilities.

The change in deferred revenue in 2021 was primarily due to new billings in advance of revenue recognition and \$234.4 million of revenue recognized during the period included in deferred revenue as of December 31, 2020.

5. DEFERRED COMMISSIONS

(in thousands)

	December 31,	
	2021	2020
Deferred commissions ⁽¹⁾	\$ 135,911	\$ 108,624

(1) Included in other long-term assets.

(in thousands)

	2021	2020	2019
Amortization of deferred commissions ⁽¹⁾	\$ 41,387	\$ 33,302	\$ 29,152

(1) Included in selling and marketing expenses.

6. PROPERTY AND EQUIPMENT ⁽¹⁾

<i>(in thousands)</i>	December 31,	
	2021	2020
Leasehold improvements	\$ 31,203	\$ 52,335
Computer equipment	26,115	30,211
Furniture and fixtures	5,565	10,572
Computer software purchased	8,566	8,415
Computer software developed for internal use	19,463	18,542
Fixed assets in progress	4,262	2,077
	<u>95,174</u>	<u>122,152</u>
Less: accumulated depreciation	(68,337)	(81,754)
	<u>\$ 26,837</u>	<u>\$ 40,398</u>

(1) Included in other long-term assets.

<i>(in thousands)</i>	2021	2020	2019
Depreciation expense	\$ 24,606	\$ 17,378	\$ 14,771

7. GOODWILL AND OTHER INTANGIBLE ASSETS

Goodwill

<i>(in thousands)</i>	2021	2020
January 1,	\$ 79,231	\$ 79,039
Acquisition	2,701	—
Currency translation adjustments	(9)	192
December 31,	<u>\$ 81,923</u>	<u>\$ 79,231</u>

Intangibles

Intangible assets are recorded at cost and amortized using the straight-line method over their estimated useful lives:

<i>(in thousands)</i>	Useful Lives	December 31, 2021		
		Cost	Accumulated Amortization	Net Book Value ⁽¹⁾
Client-related	4-10 years	\$ 63,165	\$ (57,342)	\$ 5,823
Technology	2-10 years	67,142	(58,902)	8,240
Other	1-5 years	5,361	(5,361)	—
		<u>\$ 135,668</u>	<u>\$ (121,605)</u>	<u>\$ 14,063</u>

(1) Included in other long-term assets.

<i>(in thousands)</i>	Useful Lives	December 31, 2020		
		Cost	Accumulated Amortization	Net Book Value ⁽¹⁾
Client-related	4-10 years	\$ 63,168	\$ (55,877)	\$ 7,291
Technology	2-10 years	64,843	(56,386)	8,457
Other	1-5 years	5,361	(5,361)	—
		<u>\$ 133,372</u>	<u>\$ (117,624)</u>	<u>\$ 15,748</u>

(1) Included in other long-term assets.

Amortization of intangible assets was:

<i>(in thousands)</i>	2021	2020	2019
Cost of revenue	\$ 2,516	\$ 2,487	\$ 3,500
Selling and marketing	1,471	1,483	3,125
	<u>\$ 3,987</u>	<u>\$ 3,970</u>	<u>\$ 6,625</u>

Future estimated intangible assets amortization:

<i>(in thousands)</i>	December 31, 2021
2022	\$ 3,886
2023	3,618
2024	2,849
2025	2,509
2026 and thereafter	1,201
	<u>\$ 14,063</u>

8. SEGMENT INFORMATION

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

The Company derives substantially all of its revenue from the sale and support of one group of similar products and services – software that provides case management, business process management, and real-time decisioning solutions to improve customer engagement and operational excellence in the enterprise applications market. To assess performance, the Company’s CODM, the Chief Executive Officer, reviews financial information on a consolidated basis. Therefore, the Company determined it has one operating segment and one reporting unit.

Long-lived assets related to the Company’s U.S. and international operations were:

<i>(Dollars in thousands)</i>	December 31, 2021		December 31, 2020	
U.S.	\$ 20,548	77 %	\$ 31,339	78 %
International	6,289	23 %	9,059	22 %
	<u>\$ 26,837</u>	<u>100 %</u>	<u>\$ 40,398</u>	<u>100 %</u>

9. OTHER ASSETS AND LIABILITIES

Other current assets

<i>(in thousands)</i>	December 31, 2021	December 31, 2020
Income tax receivables	\$ 25,691	\$ 44,148
Contract assets	12,530	15,296
Other	29,787	29,316
	<u>\$ 68,008</u>	<u>\$ 88,760</u>

Other long-term assets

<i>(in thousands)</i>	December 31, 2021	December 31, 2020
Deferred income taxes	\$ 180,656	\$ 88,068
Deferred commissions	135,911	108,624
Right of use assets	87,521	67,651
Capped call transactions	59,964	83,597
Property and equipment	26,837	40,398
Intangible assets	14,063	15,748
Contract assets	10,643	7,777
Other	26,006	22,980
	<u>\$ 541,601</u>	<u>\$ 434,843</u>

Other current liabilities

(in thousands)	December 31, 2021	December 31, 2020
Operating lease liabilities	\$ 6,989	\$ 18,541
Dividends payable	2,454	2,428
	<u>\$ 9,443</u>	<u>\$ 20,969</u>

Other long-term liabilities

(in thousands)	December 31, 2021	December 31, 2020
Deferred revenue	\$ 5,655	\$ 8,991
Other	7,844	15,708
	<u>\$ 13,499</u>	<u>\$ 24,699</u>

10. LEASES

Corporate headquarters

In February 2021, the Company agreed to accelerate its exit from its previous corporate headquarters to October 1, 2021, in exchange for a one-time payment from its landlord of \$18 million, which was amortized over the remaining lease term. The exit accelerated depreciation on the related leasehold improvements and reduced the Company's future lease liabilities by \$21.1 million and right of use assets by \$20.3 million. On March 31, 2021 the Company leased office space at One Main Street, Cambridge, Massachusetts, to serve as its corporate headquarters. The 4.5 year lease includes a base rent of \$2 million per year.

New Waltham Office

On July 6, 2021, the Company entered into an office space lease for 131 thousand square feet in Waltham, Massachusetts. The lease term of 11 years began on August 1, 2021. The annual rent equals the base rent plus a portion of building operating costs and real estate taxes. Rent first becomes payable on August 1, 2022. Base rent for the first year is approximately \$6 million and will increase by 3% annually. In addition, the Company will receive an improvement allowance from the landlord of up to \$11.8 million. This lease increased the Company's lease liabilities and lease-related right of use assets by \$42.1 million on August 1, 2021.

Expense

(in thousands)	2021	2020	2019
Fixed lease costs	\$ (1,694)	\$ 20,235	\$ 18,250
Short-term lease costs	2,244	1,669	1,291
Variable lease costs	4,480	4,470	5,554
	<u>\$ 5,030</u>	<u>\$ 26,374</u>	<u>\$ 25,095</u>

Right of use assets and lease liabilities

(in thousands)	December 31, 2021	December 31, 2020
Right of use assets ⁽¹⁾	\$ 87,521	\$ 67,651
Operating lease liabilities ⁽²⁾	\$ 6,989	\$ 18,541
Long-term operating lease liabilities	\$ 87,818	\$ 59,053

(1) Represents the Company's right to use the leased asset during the lease term. Included in other long-term assets.

(2) Included in other current liabilities.

The weighted-average remaining lease term and discount rate for the Company's leases were:

	December 31, 2021	December 31, 2020
Weighted-average remaining lease term	7.7 years	4.7 years
Weighted-average discount rate ⁽¹⁾	4.4 %	5.4 %

(1) The rates implicit in most of the Company's leases are not readily determinable. Therefore, the Company uses its incremental borrowing rate as the discount rate when measuring operating lease liabilities. The incremental borrowing rate represents an estimate of the interest rate the Company would incur to borrow an amount equal to the lease payments on a collateralized basis over the lease term in a similar economic environment.

Maturities of lease liabilities:

<i>(in thousands)</i>	December 31, 2021	
2022	\$	8,942
2023		17,705
2024		16,411
2025		13,553
2026		9,840
Thereafter		48,458
Total lease payments		114,909
Less: imputed interest ⁽¹⁾		(20,102)
	\$	94,807

(1) Lease liabilities are measured at the present value of the remaining lease payments using a discount rate determined at lease commencement unless the discount rate is updated due to a lease reassessment event.

Cash flow information ⁽¹⁾

<i>(in thousands)</i>	2021		2020	
Cash paid for leases	\$	18,428	\$	20,548
Right of use assets recognized for new leases and amendments (non-cash)	\$	55,068	\$	24,276

(1) In 2021, the Company received \$18 million as a one-time payment for our accelerated exit from our then corporate headquarters in Cambridge, Massachusetts. This payment has been excluded from the above table.

11. DEBT

Convertible senior notes and capped calls

Convertible senior notes

In February 2020, the Company issued Convertible Senior Notes (the "Notes") with an aggregate principal of \$600 million, due March 1, 2025, in a private placement. No principal payments are due before maturity. The Notes accrue interest at an annual rate of 0.75%, payable semi-annually in arrears on March 1 and September 1, beginning on September 1, 2020.

Conversion rights

The conversion rate is 7.4045 shares of common stock per \$1,000 principal amount of the Notes, representing an initial conversion price of \$135.05 per share of common stock. The Company will settle conversions by paying or delivering cash, shares of its common stock, or a combination of cash and shares of its common stock, at the Company's election, based on the applicable conversion rate. The conversion rate will be adjusted upon certain events, including spin-offs, tender offers, exchange offers, and certain stockholder distributions.

Beginning on September 1, 2024, noteholders may convert their Notes at any time at their election.

Before September 1, 2024, noteholders may convert their Notes in the following circumstances:

- During any calendar quarter beginning after June 30, 2020 (and only during such calendar quarter), if the last reported sale price per share of the Company's common stock exceeds 130% of the conversion price for each of at least 20 trading days (whether or not consecutive) during the 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter.
- During the five consecutive business days immediately after any five consecutive trading day period (the "Measurement Period"), if the trading price per \$1,000 principal amount of Notes for each trading day of the Measurement Period was less than 98% of the product of the last reported sale price per share of common stock on such trading day and the conversion rate on such trading day.
- Upon certain corporate events or distributions or if the Company calls any Notes for redemption, noteholders may convert before the close of business on the business day immediately before the related redemption date (or, if the Company fails to pay the redemption price in full on the redemption date, until the Company pays the redemption price).

As of December 31, 2021, the Notes were not eligible for conversion.

Repurchase rights

On or after March 1, 2023 and on or before the 40th scheduled trading day immediately before the maturity date, the Company may redeem for cash all or part of the Notes at a repurchase price equal to 100% of the principal amount, plus accrued and unpaid interest, if the last reported sale price of the Company's common stock exceeded 130% of the conversion price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period ending on, and including, the trading day immediately preceding the date on which the Company provides a redemption notice.

If certain corporate events that constitute a “Fundamental Change” occur, each noteholder will have the right to require the Company to repurchase for cash all of such noteholder’s Notes, or any portion of the principal thereof that is equal to \$1,000 or a multiple of \$1,000, at a repurchase price equal to 100% of the principal amount thereof, plus accrued and unpaid interest. A Fundamental Change relates to mergers, changes in control of the Company, liquidation/dissolution of the Company, or the delisting of the Company’s common stock.

Impact of the Notes

The Company adopted ASU 2020-06 using the modified retrospective approach on January 1, 2021. The standard eliminates the liability and equity separation model for convertible instruments with a cash conversion feature.

Before January 1, 2021, the Notes were separated into liability and equity components.

- The initial carrying amount of the liability component was calculated by measuring a similar debt instrument’s fair value that does not have an associated conversion feature. The excess of the Notes’ principal amount over the initial carrying amount of the liability component, the debt discount, was amortized as interest expense over the Notes’ contractual term.
- The equity component was recorded as an increase to additional paid-in capital and not remeasured.

Upon adoption of ASU 2020-06, the book value of the Notes increased by \$69.5 million to \$587.7 million, and retained earnings increased by \$9.4 million. The retained earnings adjustment reflects the tax effected difference between the value of the Notes and the embedded conversion feature before adoption and the combined convertible instrument’s amortized cost after adoption.

Carrying value of the Notes:

<i>(in thousands)</i>	December 31, 2021	December 31, 2020
Principal	\$ 600,000	\$ 600,000
Unamortized debt discount	—	(71,222)
Unamortized issuance costs	(9,278)	(10,575)
Convertible senior notes, net	<u>\$ 590,722</u>	<u>\$ 518,203</u>
Conversion options	\$ —	\$ 84,120
Issuance costs	—	(2,037)
Deferred taxes	—	(20,479)
Additional paid-in capital	<u>\$ —</u>	<u>\$ 61,604</u>

Interest expense related to the Notes:

<i>(in thousands)</i>	2021	2020
Contractual interest expense (0.75% coupon)	\$ 4,500	\$ 3,825
Amortization of debt discount	—	12,898
Amortization of issuance costs	2,977	1,915
	<u>\$ 7,477</u>	<u>\$ 18,638</u>

The effective interest rate for the Notes:

	2021	2020
Weighted-average effective interest rate	1.3 %	4.3 %

Future payments of principal and contractual interest:

<i>(in thousands)</i>	December 31, 2021		
	Principal	Interest	Total
2022	\$ —	\$ 4,500	\$ 4,500
2023	—	4,500	4,500
2024	—	4,500	4,500
2025	600,000	2,250	602,250
	<u>\$ 600,000</u>	<u>\$ 15,750</u>	<u>\$ 615,750</u>

Capped call transactions

In February 2020, the Company entered into privately negotiated capped call transactions (the “Capped Call Transactions”) with certain financial institutions. The Capped Call Transactions cover 4.4 million shares (representing the number of shares for which the Notes are initially convertible) of the Company’s common stock. The Capped Call Transactions are expected to reduce common stock dilution and/or offset any potential cash payments the Company must make, other than for principal and interest, upon conversion of the Notes, with such reduction and/or offset subject to a cap of \$196.44. The cap price of the Capped Call Transactions is subject to adjustment upon the occurrence of specified extraordinary events affecting the Company, including mergers and tender offers.

The Capped Call Transactions are accounted for as derivative instruments and do not qualify for the Company's own equity scope exception in ASC 815 since, in some cases of early settlement, the settlement value of the Capped Call Transactions, calculated following the governing documents, may not represent a fair value measurement. The Capped Call Transactions are classified as other long-term assets and remeasured to fair value at the end of each reporting period, resulting in a non-operating gain or loss.

Change in capped call transactions:

<i>(in thousands)</i>	2021	2020
January 1,	\$ 83,597	\$ —
Issuance	—	51,900
Fair value adjustment	(23,633)	31,697
December 31,	<u>\$ 59,964</u>	<u>\$ 83,597</u>

Credit facility

In November 2019, and as amended as of February 2020, July 2020, and September 2020, the Company entered into a five-year \$100 million senior secured revolving credit agreement (the "Credit Facility") with PNC Bank, National Association. The Company may use borrowings to finance working capital needs and for general corporate purposes. Subject to specific conditions, the Credit Facility allows the Company to increase the aggregate commitment to \$200 million. The commitments expire on November 4, 2024, and any outstanding loans will be payable on such date. The Credit Facility, as amended, contains customary covenants, including, but not limited to, those relating to additional indebtedness, liens, asset divestitures, and affiliate transactions.

The Company is also required to comply with financial covenants, including:

- Beginning with the fiscal quarter ended September 30, 2020 and ending with the fiscal quarter ended December 31, 2021, at least \$200 million in cash and investments held by Pegasystems Inc.
- Beginning with the quarter ended March 31, 2022, a maximum net consolidated leverage ratio of 3.5 to 1.0 (with a step-up in the event of certain acquisitions) and a minimum consolidated interest coverage ratio of 3.5 to 1.0.

As of December 31, 2021 and December 31, 2020, the Company had no outstanding borrowings under the Credit Facility.

12. STOCKHOLDERS' EQUITY

Preferred stock

The Company has 1 million authorized shares of preferred stock, \$0.01 par value per share, of which none were issued and outstanding as of December 31, 2021. The Board of Directors has the authority to issue the shares of preferred stock in one or more series, to establish the number of shares to be included in each series, and to determine the designation, powers, preferences, and rights of the shares of each series and the qualifications, limitations, or restrictions thereof, without any further vote or action by the stockholders. The issuance of preferred stock could decrease the earnings and assets available for distribution to holders of common stock and may have the effect of delaying, deferring, or defeating a change in control of the Company. The Company had not issued any shares of preferred stock through December 31, 2021.

Common stock

The Company has 200 million authorized shares of common stock, \$0.01 par value per share, of which 81.7 million shares were issued and outstanding as of December 31, 2021.

Dividends declared

	2021		2020		2019	
Dividends declared (per share)	\$	0.12	\$	0.12	\$	0.12
Dividend payments to stockholders (in thousands)	\$	9,761	\$	9,628	\$	9,486

The Company paid a quarterly cash dividend of \$0.03 per share in 2021, 2020, and 2019, however, the Board of Directors may terminate or modify the dividend program at any time without prior notice.

Stock repurchases

<i>(in thousands)</i>	2021		2020		2019	
	Shares	Amount	Shares	Amount	Shares	Amount
January 1,		\$ 37,726		\$ 45,484		\$ 6,620
Authorizations ⁽¹⁾		38,467		20,516		60,000
Repurchases ⁽²⁾	(432)	(53,610)	(278)	(28,274)	(333)	(21,136)
December 31,		<u>\$ 22,583</u>		<u>\$ 37,726</u>		<u>\$ 45,484</u>

(1) On June 8, 2021, the Company announced that the Board of Directors extended the current stock repurchase program's expiration date to June 30, 2022 and increased the remaining stock repurchase authority to \$60 million.

(2) Purchases under this program have been made on the open market.

13. FAIR VALUE MEASUREMENTS

Assets and liabilities measured at fair value on a recurring basis

The Company records its cash equivalents, marketable securities, Capped Call Transactions, and venture investments at fair value on a recurring basis. Fair value is an exit price, representing the amount that would be received from the sale of an asset or paid to transfer a liability in an orderly transaction between market participants based on assumptions that market participants would use in pricing an asset or liability.

As a basis for classifying the fair value measurements, a three-tier fair value hierarchy, which classifies the fair value measurements based on the inputs used in measuring fair value, was established as follows:

- Level 1 - observable inputs such as quoted prices in active markets for identical assets or liabilities;
- Level 2 - significant other inputs that are observable either directly or indirectly; and
- Level 3 - significant unobservable inputs on which there is little or no market data, which require the Company to develop its own assumptions.

This hierarchy requires the Company to use observable market data, when available, and minimize unobservable inputs when determining fair value.

The fair value of the Capped Call Transactions at the end of each reporting period is determined using a Black-Scholes option-pricing model. The valuation models use various market-based inputs, including stock price, remaining contractual term, expected volatility, risk-free interest rate, and expected dividend yield. The Company applies judgment when determining expected volatility. The Company considers both historical and implied volatility levels of the underlying equity security. The Company's venture investments are recorded at fair value based on valuation methods using the observable transaction price and other unobservable inputs, including the volatility, rights, and obligations of the securities the Company holds.

The Company's assets and liabilities measured at fair value on a recurring basis:

<i>(in thousands)</i>	December 31, 2021				December 31, 2020			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Cash equivalents	\$ 3,216	\$ —	\$ —	\$ 3,216	\$ 42,339	\$ 14,000	\$ —	\$ 56,339
Marketable securities	\$ —	\$ 202,814	\$ —	\$ 202,814	\$ —	\$ 293,269	\$ —	\$ 293,269
Capped Call Transactions ⁽¹⁾⁽²⁾	\$ —	\$ 59,964	\$ —	\$ 59,964	\$ —	\$ 83,597	\$ —	\$ 83,597
Venture investments ⁽¹⁾⁽³⁾	\$ —	\$ —	\$ 7,648	\$ 7,648	\$ —	\$ —	\$ 8,345	\$ 8,345

(1) Included in other long-term assets.

(2) See "Note 11. Debt" for additional information.

(3) Investments in privately-held companies.

Change in venture investments:

<i>(in thousands)</i>	2021	2020
January 1,	\$ 8,345	\$ 4,871
New investments	500	3,306
Sales of investments	(2,449)	(1,424)
Changes in foreign exchange rates	(68)	118
Changes in fair value:		
included in other income	100	1,374
included in other comprehensive income	1,220	100
December 31,	\$ 7,648	\$ 8,345

The carrying value of certain other financial instruments, including receivables and accounts payable, approximates fair value due to these items' relatively short maturity.

Fair value of the Notes

The Notes' fair value (inclusive of the conversion feature embedded in the Notes) was \$642.0 million as of December 31, 2021 and \$706.5 million as of December 31, 2020. The fair value was determined based on the Notes' quoted price in an over-the-counter market on the last trading day of the reporting period and classified within Level 2 in the fair value hierarchy. See "Note 11. Debt" for additional information.

Credit risk

In addition to receivables, the Company is potentially subject to concentrations of credit risk from the Company's cash, cash equivalents, and marketable securities. The Company's cash and cash equivalents are generally held with large, diverse financial institutions worldwide to reduce the Company's credit risk exposure. Investment policies have been implemented that limit purchases of marketable debt securities to investment-grade securities.

14. REVENUE

Geographic revenue

(Dollars in thousands)

	2021		2020		2019	
U.S.	\$ 690,133	57 %	\$ 613,844	61 %	\$ 525,191	57 %
Other Americas	61,339	5 %	49,441	5 %	60,536	7 %
United Kingdom ("U.K.")	117,580	10 %	91,517	9 %	87,382	10 %
Europe (excluding U.K.), Middle East, and Africa	198,080	16 %	156,056	15 %	137,946	15 %
Asia-Pacific	144,521	12 %	106,659	10 %	100,328	11 %
	<u>\$ 1,211,653</u>	<u>100 %</u>	<u>\$ 1,017,517</u>	<u>100 %</u>	<u>\$ 911,383</u>	<u>100 %</u>

Revenue streams

(in thousands)

	2021		2020		2019	
Perpetual license	\$ 32,172		\$ 28,558		\$ 80,015	
Subscription license	336,248		266,352		199,433	
Revenue recognized at a point in time	368,420		294,910		279,448	
Maintenance	320,257		296,709		280,580	
Pega Cloud	300,966		208,268		133,746	
Consulting	222,010		217,630		217,609	
Revenue recognized over time	843,233		722,607		631,935	
	<u>\$ 1,211,653</u>		<u>\$ 1,017,517</u>		<u>\$ 911,383</u>	

(in thousands)

	2021		2020		2019	
Pega Cloud	\$ 300,966		\$ 208,268		\$ 133,746	
Maintenance	320,257		296,709		280,580	
Subscription services	621,223		504,977		414,326	
Subscription license	336,248		266,352		199,433	
Subscription	957,471		771,329		613,759	
Perpetual license	32,172		28,558		80,015	
Consulting	222,010		217,630		217,609	
	<u>1,211,653</u>		<u>1,017,517</u>		<u>911,383</u>	

Remaining performance obligations ("Backlog")

Expected future revenue from existing non-cancellable contracts:

As of December 31, 2021:

(Dollars in thousands)	Subscription services		Subscription products	Perpetual license	Consulting	Total	
	Maintenance	Pega Cloud					
1 year or less	\$ 234,917	\$ 330,426	\$ 153,467	\$ 10,952	\$ 41,411	\$ 771,173	58 %
1-2 years	65,502	220,231	14,968	4,505	8,917	314,123	23 %
2-3 years	38,432	124,969	1,955	2,252	5,512	173,120	13 %
Greater than 3 years	28,157	55,937	1,765	—	619	86,478	6 %
	<u>\$ 367,008</u>	<u>\$ 731,563</u>	<u>\$ 172,155</u>	<u>\$ 17,709</u>	<u>\$ 56,459</u>	<u>\$ 1,344,894</u>	<u>100 %</u>

As of December 31, 2020:

(Dollars in thousands)	Subscription services		Subscription products	Perpetual license	Consulting	Total	
	Maintenance	Pega Cloud					
1 year or less	\$ 227,803	\$ 248,223	\$ 105,920	\$ 11,514	\$ 19,226	\$ 612,686	57 %
1-2 years	54,509	193,064	7,962	395	346	256,276	24 %
2-3 years	28,320	104,542	4,928	—	851	138,641	13 %
Greater than 3 years	19,283	44,308	4	—	1,189	64,784	6 %
	<u>\$ 329,915</u>	<u>\$ 590,137</u>	<u>\$ 118,814</u>	<u>\$ 11,909</u>	<u>\$ 21,612</u>	<u>\$ 1,072,387</u>	<u>100 %</u>

15. STOCK-BASED COMPENSATION

<i>(in thousands)</i>	2021	2020	2019
Cost of revenue	\$ 21,822	\$ 20,796	\$ 18,822
Selling and marketing	54,182	46,283	32,665
Research and development	25,413	22,885	18,938
General and administrative	14,530	13,104	10,484
	<u>\$ 115,947</u>	<u>\$ 103,068</u>	<u>\$ 80,909</u>
Income tax benefit	\$ (23,410)	\$ (20,464)	\$ (16,392)

The Company periodically grants employees stock options and restricted stock units (“RSUs”) and non-employee Directors common stock and stock options.

Most of the Company’s stock-based compensation arrangements vest over five years, with 20% vesting after one year and the remaining 80% vesting in equal quarterly installments over the remaining four years. The Company’s stock options have a term of ten years. The Company recognizes stock-based compensation using the accelerated attribution method, treating each vesting tranche as if it were an individual grant. The stock-based compensation expense recognized during a period is based on the value of the awards that are expected to vest. Forfeitures are estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. Ultimately, the Company recognizes the actual expense over the vesting period only for the shares that vest.

Employees may elect to receive 50% of the employee’s target incentive compensation under the Company’s Corporate Incentive Compensation Plan (the “CICP”) in the form of RSUs instead of cash. If elected by an employee, the equity amount is equal in value on the date of grant to 50% of the employee’s target incentive opportunity, based on the employee’s base salary. The number of RSUs granted is determined by dividing 50% of the employee’s target incentive opportunity by 85% of the closing price of the Company’s common stock on the grant date, less the present value of expected dividends during the vesting period. If elected, the award vests 100% on the following year’s CICP payout date. Vesting is conditioned upon the performance conditions of the CICP and on continued employment; if threshold funding does not occur, the RSUs will not vest. The Company considers vesting to be probable on the grant date and recognizes the associated stock-based compensation expense over the requisite service period beginning on the grant date and ending on the vesting date.

The Company grants awards that allow for the settlement of vested stock options and RSUs on a net share basis (“net settled awards”). With net settled awards, the employee does not surrender any cash or shares upon exercise. Instead, the Company withholds the number of shares to cover the exercise price (in the case of stock options) and the minimum statutory tax withholding obligations (in the case of stock options and RSUs) from the shares that would otherwise be issued upon exercise or settlement. The exercise of stock options and settlement of RSUs on a net share basis results in fewer shares being issued by the Company.

Stock-based compensation plans

2004 Long-Term Incentive Plan (as amended and restated)

In 2004, the Company adopted the 2004 Long-Term Incentive Plan (as amended and restated, the “2004 Plan”) to provide employees, non-employee Directors, and consultants with opportunities to purchase stock through incentive stock options and non-qualified stock options. Subsequent amendments to the plan increased the number of shares authorized for issuance under the plan to 36 million, extended the term of the plan to 2030, and limited annual compensation to any non-employee Director to \$0.5 million.

As of December 31, 2021, 9.2 million shares were subject to outstanding options and stock-based awards under the 2004 Plan.

2006 Employee Stock Purchase Plan

In 2006, the Company adopted the 2006 Employee Stock Purchase Plan (the “2006 ESPP”) under which employees may purchase up to an aggregate of one million shares of common stock, at a price equal to at least 85% of the fair market value of the Company’s common stock on the lesser of the commencement date or completion date for offerings under the plan, or such higher price as the Company’s Board of Directors may establish from time to time. In October 2012, the Company’s Board of Directors amended the 2006 ESPP to continue until no shares remain. Before January 1, 2021, the 2006 ESPP was non-compensatory as the Company’s Board of Directors set the purchase price at 95% of the fair market value on the completion date of the offering period. Commencing on January 1, 2021, the Company’s Board of Directors set the purchase price at 85% of the fair market value on the completion date of the offering period.

<i>(in thousands)</i>	2021
Compensation expense from 2006 ESPP	\$ 1,860

As of December 31, 2021, 0.6 million shares had been issued under the plan.

Shares issued and available for issuance

During 2021, the Company issued 1.3 million shares to its employees and directors under the Company's stock-based compensation plans.

As of December 31, 2021, there were 10.4 million shares available for issuance for future equity grants under the Company's stock plans, consisting of 10.0 million shares under the 2004 Plan and 0.4 million shares under the 2006 ESPP.

Grant activity

Stock options

The Company estimates the fair value of stock options using a Black-Scholes option-pricing model. Key inputs used to estimate the fair value of stock options include the exercise price of the award, expected term of the option, expected volatility of the Company's common stock over the option's expected term, risk-free interest rate over the option's expected term, and the Company's expected annual dividend yield. The exercise price for stock options is greater than or equal to the shares' fair market value at the grant date.

The following table summarizes the Company's fair value assumptions for stock options:

	2021	2020	2019
Weighted-average grant-date fair value	\$ 37.74	\$ 24.16	\$ 19.10
Assumptions used in the Black-Scholes option-pricing model:			
Expected annual volatility ⁽¹⁾	35 %	31 %	32 %
Expected term in years ⁽²⁾	4.4	4.5	4.5
Risk-free interest rate ⁽³⁾	0.6 %	0.7 %	2.4 %
Expected annual dividend yield ⁽⁴⁾	0.2 %	0.2 %	0.3 %

(1) The expected annual volatility for each grant is determined based on the average of historic daily price changes of the Company's common stock over a period, which approximates the expected option term.

(2) The expected option term for each grant is determined based on the historical exercise behavior of employees and post-vesting employment termination behavior.

(3) The risk-free interest rate is based on the yield of U.S. Treasury securities with a commensurate maturity with the expected option term at the time of grant.

(4) The expected annual dividend yield is based on the weighted-average dividend yield assumptions used for options granted during the applicable period.

The following table summarizes the combined stock option activity under the Company's stock option plans for 2021:

	Shares (in thousands)	Weighted-average Exercise Price	Weighted-average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in thousands)
Options outstanding as of January 1, 2021	7,391	\$ 59.88		
Granted	1,574	129.71		
Exercised	(1,170)	47.93		
Forfeited	(606)	85.69		
Options outstanding as of December 31, 2021	7,189	\$ 74.94		
Vested and expected to vest as of December 31, 2021	6,176	\$ 71.97	6.7	\$ 267,722
Exercisable as of December 31, 2021	3,398	\$ 50.06	5.4	\$ 210,796

The aggregate intrinsic value of stock options exercised (i.e., the difference between the market price at exercise and the price paid by the employee at exercise) in 2021, 2020, and 2019 was \$94.3 million, \$126.8 million, and \$63.3 million, respectively. The aggregate intrinsic value of stock options outstanding and exercisable as of December 31, 2021 is based on the difference between the closing price of the Company's stock of \$111.82 and the exercise price of the applicable stock options.

As of December 31, 2021, the Company had unrecognized stock-based compensation expense related to the unvested portion of stock options of \$39.8 million that is expected to be recognized as expense over a weighted-average period of 2.2 years.

RSUs

RSUs deliver to the recipient a right to receive a specified number of shares of the Company's common stock upon vesting. The Company values its RSUs at the fair value of its common stock on the grant date, which is the closing price of its common stock on the grant date less the present value of expected dividends during the vesting period, as the recipient is not entitled to dividends during the requisite service period.

The weighted-average grant-date fair value for RSUs granted in 2021, 2020, and 2019 was \$129.03, \$93.68, and \$66.21, respectively.

The following table summarizes the combined RSU activity for all grants, including the CICIP, under the 2004 Plan for 2021:

	Shares (in thousands)		Weighted-Average Grant-Date Fair Value		Aggregate Intrinsic Value (in thousands)
Nonvested as of January 1, 2021	2,462	\$	74.78		
Granted	945		129.03		
Vested	(972)		70.19		
Forfeited	(381)		88.01		
Nonvested as of December 31, 2021	2,054	\$	99.36	\$	229,643
Expected to vest as of December 31, 2021	1,523	\$	101.32	\$	170,357

The fair value of RSUs vested in 2021, 2020, and 2019 was \$122.5 million, \$108.4 million, and \$77.0 million, respectively. The aggregate intrinsic value of RSUs outstanding and expected to vest as of December 31, 2021 is based on the closing price of the Company's stock of \$111.82 as of December 31, 2021.

As of December 31, 2021, the Company had \$73.1 million of unrecognized stock-based compensation expense related to all unvested RSUs that is expected to be recognized as expense over a weighted-average period of 2.1 years.

Common stock

In 2021, the Company granted 0.01 million shares of common stock to Directors with a weighted-average grant-date fair value of \$127.50 per share.

16. EMPLOYEE BENEFIT PLANS

The Company sponsors defined contribution plans for qualifying employees, including a 401(k) plan in the United States to which the Company makes discretionary matching contributions.

Employee benefit plan expenses:

<i>(in thousands)</i>	2021	2020	2019
U.S. 401(k) Plan	\$ 8,879	\$ 8,109	\$ 6,676
International plans	20,780	16,132	13,021
	\$ 29,659	\$ 24,241	\$ 19,697

17. INCOME TAXES

The components of (loss) before (benefit from) income taxes are:

<i>(in thousands)</i>	2021	2020	2019
Domestic	\$ (125,947)	\$ (59,281)	\$ (51,396)
Foreign	(6,040)	(65,608)	(83,450)
	\$ (131,987)	\$ (124,889)	\$ (134,846)

The components of (benefit from) income taxes are:

<i>(in thousands)</i>	2021	2020	2019
Current:			
Federal	\$ 1,921	\$ (11,251)	\$ 1,050
State	363	399	405
Foreign	4,105	7,113	3,449
Total current provision for (benefit from)	6,389	(3,739)	4,904
Deferred:			
Federal	(42,214)	(34,573)	(25,356)
State	(9,413)	(8,119)	(5,143)
Foreign	(23,709)	(17,085)	(18,818)
Total deferred (benefit)	(75,336)	(59,777)	(49,317)
	\$ (68,947)	\$ (63,516)	\$ (44,413)

A reconciliation of the U.S federal statutory tax rate and the Company's effective tax rate:

<i>(in thousands)</i>	2021	2020	2019
U.S. federal income taxes at statutory rates	\$ (27,717)	\$ (26,227)	\$ (28,318)
Valuation allowance	(469)	(5,881)	727
State income taxes, net of federal benefit and tax credits	(7,217)	(6,994)	(4,450)
Permanent differences	541	1,773	2,606
Federal research and experimentation credits	(6,380)	(5,716)	(4,295)
Tax effects of foreign activities	3,599	3,050	3,056
Tax-exempt income	—	—	(91)
Provision to return adjustments	(2,016)	3,416	(5,460)
Non-deductible compensation	5,464	1,806	1,716
Expiration of statutes and changes in estimates	(2,250)	55	2,420
Excess tax benefits related to stock-based compensation	(20,697)	(25,797)	(14,291)
Cares Act	—	(10,576)	—
Impact of change in tax law	(11,811)	7,489	1,908
Other	6	86	59
	<u>\$ (68,947)</u>	<u>\$ (63,516)</u>	<u>\$ (44,413)</u>

Deferred income taxes

Significant components of net deferred tax assets and liabilities are:

<i>(in thousands)</i>	December 31,	
	2021	2020
Deferred tax assets:		
Net operating loss carryforwards	\$ 133,164	\$ 88,129
Accruals and reserves	38,526	26,309
Interest expense carryforward	7,759	3,464
Software revenue	336	—
Convertible senior notes	8,362	—
Depreciation	3,764	4,795
Tax credit carryforwards	40,590	31,556
Other	1,015	370
Total deferred tax assets	<u>233,516</u>	<u>154,623</u>
Valuation allowances	<u>(25,855)</u>	<u>(23,409)</u>
Total net deferred tax assets	<u>207,661</u>	<u>131,214</u>
Deferred tax liabilities:		
Capped call transactions	(14,961)	(20,858)
Convertible senior notes	—	(6,473)
Software revenue	—	(11,477)
Intangibles	(12,044)	(4,338)
Total deferred tax liabilities	<u>(27,005)</u>	<u>(43,146)</u>
	<u>\$ 180,656</u>	<u>\$ 88,068</u>

The Company regularly assesses the need for a valuation allowance against its deferred tax assets. In making that assessment, the Company considers both positive and negative evidence related to the likelihood of realizing the deferred tax assets to determine, based on the weight of available evidence, whether it is more-likely-than-not that some or all of the deferred tax assets will not be realized. This determination requires significant judgment, including assumptions about future taxable income based on historical and projected information. There were no material changes in the valuation allowance in 2021. In 2020, the change was \$6 million due to expiring acquisition net operating losses with a valuation allowance.

As of December 31, 2021, the Company's net operating losses and credit carryforwards are:

<i>(in thousands)</i>	Federal	State
Net operating losses ⁽¹⁾	\$ 203,835	\$ 13,810
Net operating losses due to acquisitions ⁽¹⁾	\$ 64,847	\$ 2,008
Credit carryforwards ⁽²⁾	\$ 30,115	\$ 1,516
Credit carryforwards due to acquisitions	\$ 640	\$ 60

(1) Excludes federal and state net operating losses of \$26.7 million and \$0.8 million, respectively, from prior acquisitions that the Company expects will expire unutilized.

(2) Excludes federal and state tax credits of \$0.1 million and \$9.1 million, respectively, that the Company expects will expire unutilized.

Carryforward losses and credits expire between 2022 and 2039, except for the 2020 and 2021 federal net operating loss of \$139.0 million and \$1.0 million of state credits, which both have unlimited carryforward periods.

The Company's India subsidiary is primarily located in Special Economic Zones ("SEZs") and is entitled to a tax holiday in India. The tax holiday reduces or eliminates income tax in India. The tax holiday in the Hyderabad SEZ is scheduled to expire in 2024. The tax holiday in the Bengaluru SEZ is scheduled to expire in 2022.

Uncertain tax benefits

A rollforward of the Company's gross unrecognized tax benefits is:

<i>(in thousands)</i>	2021	2020	2019
Balance as of January 1,	\$ 23,801	\$ 23,271	\$ 18,157
Additions for tax positions related to the current year	653	653	510
Additions for tax positions of prior years	—	962	4,917
Reductions for tax positions of prior years	(6,870)	(1,085)	(313)
Balance as of December 31,	<u>\$ 17,584</u>	<u>\$ 23,801</u>	<u>\$ 23,271</u>

As of December 31, 2021, the Company had \$17.6 million of total unrecognized tax benefits, which would decrease the Company's effective tax rate if recognized.

Tax examinations

The Company files federal and state income tax returns in the U.S. and in various foreign jurisdictions. In the ordinary course of business, the Company and its subsidiaries are examined by various tax authorities, including the Internal Revenue Service in the U.S. As of December 31, 2021, the Company's U.S. federal tax returns for the years 2014 through 2017 were under examination by the Internal Revenue Service. In addition, certain foreign jurisdictions are auditing the Company's income tax returns for periods ranging from 2013 through 2019. The Company does not expect the results of these audits to have a material effect on the Company's financial condition, results of operations, or cash flows. With few exceptions, the statute of limitations remains open in all jurisdictions for the tax years 2016 to the present.

18. (LOSS) PER SHARE

Basic (loss) per share is calculated using the weighted-average number of common shares outstanding during the period. Diluted (loss) per share is calculated using the weighted-average number of common shares outstanding during the period, plus the dilutive effect of outstanding stock options, RSUs, and convertible senior notes.

Calculation of (loss) per share:

<i>(in thousands, except per share amounts)</i>	2021	2020	2019
Net (loss)	\$ (63,040)	\$ (61,373)	\$ (90,433)
Weighted-average common shares outstanding	81,387	80,336	79,055
(Loss) per share, basic	<u>\$ (0.77)</u>	<u>\$ (0.76)</u>	<u>\$ (1.14)</u>
Net (loss)	\$ (63,040)	\$ (61,373)	\$ (90,433)
Stock options	—	—	—
RSUs	—	—	—
Effect of dilutive securities	—	—	—
Weighted-average common shares outstanding, assuming dilution ⁽¹⁾⁽²⁾⁽³⁾	81,387	80,336	79,055
(Loss) per share, diluted	<u>\$ (0.77)</u>	<u>\$ (0.76)</u>	<u>\$ (1.14)</u>
Outstanding anti-dilutive stock options and RSUs ⁽⁴⁾	5,862	6,278	5,911

(1) The shares underlying the conversion options in the Company's Notes are included using the if-converted method, if dilutive in the period. If the outstanding conversion options were fully exercised, the Company would issue an additional 4.4 million shares.

(2) In periods of loss, all dilutive securities are excluded as their inclusion would be anti-dilutive.

(3) The Company's Capped Call Transactions convert to 4.4 million shares of the Company's common stock (representing the number of shares for which the Notes are initially convertible). The Capped Call Transactions are expected to reduce common stock dilution and/or offset any potential cash payments the Company must make, other than for principal and interest, upon conversion of the Notes, with such reduction and/or offset subject to a cap of \$196.44. The Capped Call Transactions are excluded from weighted-average common shares outstanding, assuming dilution, in all periods as their effect would be anti-dilutive.

(4) Outstanding stock options and RSUs that were anti-dilutive under the treasury stock method in the period were excluded from the computation of diluted (loss) per share. These awards may be dilutive in the future.

19. COMMITMENTS AND CONTINGENCIES

Commitments

See "Note 10. Leases" for additional information.

Legal Proceedings

In addition to the matters below, the Company is, or may become, involved in a variety of claims, demands, suits, investigations, and proceedings that arise from time to time relating to matters incidental to the ordinary course of the Company's business, including actions with respect to contracts, intellectual property, employment, benefits, and securities matters. Regardless of the outcome, legal disputes can have a material effect on the Company because of defense and settlement costs, diversion of management resources, and other factors. In addition, as the Company is a party to ongoing litigation it is at least reasonably possible that our estimates will change in the near term and the effect may be material. As of December 31, 2021, the Company has not accrued a loss with respect to any litigation matter.

Pegasystems Inc. v. Appian Corp. & Business Process Management Inc.

On July 3, 2019, the Company filed suit in Massachusetts federal court against Appian Corp. ("Appian") and Business Process Management, Inc. ("BPM") relating to a BPM "Market Report" that Appian had used to promote itself against the Company. *Pegasystems Inc. v. Appian Corp. & Business Process Management Inc.*, No. 1:19-cv-11461 (D. Mass). The Company's complaint alleges that the report and Appian's marketing of it include false and misleading statements about the Company. The Company asked the court to order Appian to stop using the report, and Appian subsequently agreed to stop using the report. The Company also asked the court to award damages for false advertising, deceptive business practices, and commercial disparagement. On December 17, 2019, Appian asserted counterclaims against the Company seeking unspecified monetary damages and alleging certain of the Company's past marketing materials included false and misleading statements, one of the marketing reports failed to disclose that the report's author was paid by the Company, and that the Company defamed Appian in a LinkedIn post. On May 22, 2020, the court allowed in part the Company's motion to dismiss the counterclaims brought by Appian, but denied the motion as to the third party report and the defamation count. As described below, on May 29, 2020, Appian then sued the Company in Virginia. On June 17, 2021, Appian asserted additional counterclaims against the Company seeking unspecified monetary damages and alleging that certain additional marketing materials used by the Company contained false or misleading statements. The Company believes the counterclaims brought by Appian against the Company are without merit, and the Company intends to vigorously pursue its claims against Appian and defend against the counterclaims brought against the Company in this matter. The Company is unable to reasonably estimate possible damages or a range of possible damages in this matter given the Company's belief that the damages claimed by Appian fail to satisfy the required legal standard, the status of the proceeding, and due to the uncertainty as to how a jury may rule if this ultimately proceeds to trial.

Appian Corp. v. Pegasystems Inc. & Youyong Zou

On May 29, 2020, Appian sued the Company and an individual, Youyong Zou, in the Circuit Court of Fairfax County, Virginia in a matter titled *Appian Corp. v. Pegasystems Inc. & Youyong Zou*, No. 2020-07216 (Fairfax Cty. Ct.). Appian's complaint alleges a relationship between the Company and a consultant in approximately 2013 and sets forth claims for misappropriation of trade secrets under the Virginia Uniform Trade Secrets Act, violation of the Virginia Computer Crimes Act, tortious interference with contract and business expectancy, and statutory and common law conspiracy. The court allowed Appian to file an amended complaint on November 4, 2021, alleging that, in the 2019 time frame, employees of the Company accessed free Appian product trials under false pretenses. The amended complaint withdrew the claim for tortious interference with contract. After Appian filed the amended complaint, the Company successfully moved to dismiss Appian's conspiracy claims, which are no longer a part of the case. A jury trial with respect to the merits of the dispute is scheduled to begin on March 21, 2022. The Company believes the claims brought by Appian against the Company are without merit, that the Company has strong defenses to these claims and that, among other things, even were the jury to find that the Company misappropriated Appian's alleged trade secrets, any alleged damages claimed by Appian are not supported by the necessary legal standard of proximate cause. The Company is unable to reasonably estimate possible damages or a range of possible damages given the Company's belief that the damages claimed by Appian fail to satisfy the required legal standard and due to the uncertainty as to how a jury may rule.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of disclosure controls and procedures

Our management, with the participation of our Chief Executive Officer (“CEO”) and Chief Financial Officer (“CFO”), evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act) as of December 31, 2021. In designing and evaluating our disclosure controls and procedures, our management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives, and our management necessarily applied its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Based on this evaluation, our CEO and CFO concluded that our disclosure controls and procedures were effective as of December 31, 2021.

Management’s report on and changes in internal control over financial reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act. Under the supervision and with the participation of our management, including our CEO and CFO, we conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2021 based on the framework in the updated *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”) on May 14, 2013.

Based on this evaluation, management has concluded that (i) our internal control over financial reporting was effective as of December 31, 2021 and (ii) no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act) occurred during the quarter ended December 31, 2021 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Deloitte & Touche LLP, our independent registered public accounting firm which also audited our consolidated financial statements, has issued an attestation report on our internal control over financial reporting, which is included in Item 8 “Financial Statements and Supplementary Data”.

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

Except as set forth below, information required by this item is incorporated herein by reference from the information contained in our proxy statement for our 2022 annual stockholders meeting (the “2022 proxy statement”) under the headings Executive Compensation, Election of Directors, Corporate Governance, Executive Officers, and Delinquent Section 16(a) Reports, which will be filed with the Securities and Exchange Commission within 120 days after the close of the fiscal year.

We have adopted a written code of conduct that applies to our Board of Directors and employees, including our principal executive officer, principal financial officer, principal accounting officer, and persons performing similar functions. A copy of our code of conduct can be found on our website, www.pegacom. We intend to satisfy the disclosure requirements under Item 5.05 of Form 8-K and the applicable the NASDAQ Global Select Market rules by posting such information on our website in accordance with such requirements.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this item is incorporated herein by reference from the information contained in the 2022 proxy statement under the headings “Director Compensation”, “Compensation Discussion and Analysis”, and “Executive Compensation” 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 is incorporated herein by reference from the information contained in the 2022 proxy statement under the headings “Executive Compensation”, “Equity Compensation Plan Information”, and “Security Ownership of Certain Beneficial Owners and Management”, and is incorporated herein by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this item is incorporated herein by reference from the information contained in the 2022 proxy statement under the headings “Certain Relationships and Related Transactions” and “Determination of Independence” and is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this item is incorporated herein by reference from the information contained in the 2022 proxy statement under the heading “Independent Registered Public Accounting Firm Fees and Services” and is incorporated herein by reference.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) The following are filed as part of this Annual Report:

(1) Financial Statements

The following consolidated financial statements are included in Item 8:

	Page
Report of Independent Registered Public Accounting Firm	36
Consolidated Balance Sheets as of December 31, 2021 and 2020	38
Consolidated Statements of Operations for the years ended December 31, 2021, 2020, and 2019	39
Consolidated Statements of Comprehensive (Loss) for the years ended December 31, 2021, 2020, and 2019	40
Consolidated Statements of Stockholders' Equity for the years ended December 31, 2021, 2020, and 2019	41
Consolidated Statements of Cash Flows for the years ended December 31, 2021, 2020, and 2019	42

(b) Exhibits

Exhibit No.	Description	Incorporation by Reference			Filed Herewith
		Form	Location	Filing Date	
3.1	Restated Articles of Organization of the Registrant and Amendments thereto	10-Q	3.1	11/4/14	
3.2	Amended and Restated Bylaws of Pegasystems Inc	8-K	3.2	6/15/20	
4.1	Specimen Certificate Representing the Common Stock	S-1	4.1	6/19/96	
4.2	Indenture, dated as of February 24, 2020, between Pegasystems Inc. and U.S. Bank National Association, as trustee	8-K	4.1	2/24/20	
4.3	Form of certificate representing the 0.75% Convertible Senior Notes due 2025	8-K	Exhibit A to 4.1	2/24/20	
4.4	Description of Common Stock	10-K	4.2	2/12/20	
10.1	2004 Long-Term Incentive Plan (as amended and restated)++	8-K	10.1	6/24/20	
10.2	Restricted Stock Unit Sub-Plan of the Registrant's 2004 Long-Term Incentive Plan for French Participants++	DEF 14A	Appendix B to 2016 Proxy Statement	4/18/16	
10.3	2006 Employee Stock Purchase Plan, as amended on October 29, 2020++	10-K	10.3	2/17/21	
10.4	Form of Employee Stock Option Agreement, as amended++	10-Q	10.3	5/10/17	
10.5	Form of Global Stock Option Agreement++	10-K	10.5	2/17/21	
10.6	Form of Restricted Stock Unit Agreement, as amended++	10-Q	10.4	5/10/17	
10.7	Form of Global Restricted Stock Unit Agreement++	10-K	10.7	2/17/21	
10.8	Form of Non-Employee Director Stock Option Agreement++	10-Q	10.2	10/29/04	
10.9	Form of Director Indemnification Agreement++	8-K	99.1	4/11/05	
10.10	Offer Letter between the Registrant and Douglas I. Kra dated October 19, 2004++	10-K	10.20	2/17/04	
10.11	Offer Letter, dated April 27, 2020, between Pegasystems Inc. and Hayden Stafford++	10-Q	10.3	7/28/20	
10.12	Offer Letter between the Registrant and Kenneth Stillwell dated June 1, 2016++	8-K	99.1	6/14/16	
10.13	Compensation program for non-employee members of the Registrant's Board of Directors, effective August 5, 2019++	8-K	Item 1.01	8/9/19	
10.14	2021 Section 16 Officers/FLT Member Corporate Incentive Compensation Plan++	8-K	99.1	2/8/21	
10.15	2022 Section 16 Officers/FLT Member Corporate Incentive Compensation Plan++	8-K	99.1	2/7/22	
10.16	Credit Agreement dated as of November 5, 2019 with PNC Bank, National Association	10-Q	10.1	11/7/19	
10.17	Amendment to Loan Documents, dated February 18, 2020, between Pegasystems Inc. and PNC Bank, National Association	8-K	10.3	2/24/20	
10.18	Amendment 2 to Loan Documents, dated July 22, 2020, between Pegasystems Inc. and PNC Bank, National Association	10-Q	10.2	7/28/20	
10.19	Amendment to Loan Documents, dated as of September 30, 2020, between Pegasystems Inc. and PNC Bank, National Association	10-Q	10.3	10/28/20	
10.20	Form of Side Letter to Base Call Option Transaction	10-Q	10.1	10/28/20	
10.21	Form of Side Letter to Additional Call Option Transaction	10-Q	10.2	10/28/20	
10.22	Form of Confirmation of Base Call Option Transaction	8-K	10.1	2/24/20	
10.23	Form of Confirmation of Additional Call Option Transaction	8-K	10.2	2/24/20	
10.24	Sublease, dated March 31, 2021 for Office Space at One Main Street, Cambridge, MA	10-Q	10.1	7/28/21	
10.25	Lease between Pegasystems Inc. and 275 Wyman LLC**	8-K	10.1	7/9/21	
21.1	Subsidiaries of the Registrant.				X
23.1	Consent of Independent Registered Public Accounting Firm—Deloitte & Touche LLP.				X
31.1	Certification pursuant to Exchange Act Rules 13a-14 and 15d-14 of the Chief Executive Officer.				X
31.2	Certification pursuant to Exchange Act Rules 13a-14 and 15d-14 of the Chief Financial Officer.				X
32	Certification pursuant to 18 U.S.C. Section 1350 of the Chief Executive Officer and the Chief Financial Officer.				X
101.INS	Inline XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.				X
101.SCH	Inline XBRL Taxonomy Extension Schema Document.				X
101.CAL	Inline XBRL Taxonomy Calculation Linkbase Document.				X
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document.				X
101.LAB	Inline XBRL Taxonomy Label Linkbase Document.				X
101.PRE	Inline XBRL Taxonomy Presentation Linkbase Document.				X
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)				X

++ Management contracts and compensatory plan or arrangements required to be filed pursuant to Item 15(b) of Form 10-K.

** Certain portions of this exhibit are considered confidential and have been omitted as allowed under SEC rules and regulations

(c) Financial Statement Schedules

All financial statement schedules are omitted because the required information is not present or not present in sufficient amounts to require submission of the schedule or because the information is reflected in the consolidated financial statements or notes thereto.

ITEM 16. FORM 10-K SUMMARY

Omitted at Registrant's option.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this Annual Report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: February 16, 2022

Pegasystems Inc.

By: _____ /s/ KENNETH STILLWELL

Kenneth Stillwell
Chief Operating Officer and Chief Financial Officer
(Principal Financial Officer)

Pursuant to the requirements of the Securities Exchange Act of 1934, this Annual Report on Form 10-K has been signed below on February 16, 2022 by the following persons on behalf of the Registrant and in the capacities indicated.

Signature	Title
_____ /s/ ALAN TREFLER Alan Trefler	Chairman and Chief Executive Officer (Principal Executive Officer)
_____ /s/ KENNETH STILLWELL Kenneth Stillwell	Chief Operating Officer and Chief Financial Officer (Principal Financial Officer)
_____ /s/ EFSTATHIOS KOUNINIS Efstathios Kouninis	Chief Accounting Officer, Vice President of Finance, and Treasurer (Principal Accounting Officer)
_____ /s/ PETER GYENES Peter Gyenes	Director
_____ /s/ RICHARD JONES Richard Jones	Director
_____ /s/ CHRISTOPHER LAFOND Christopher Lafond	Director
_____ /s/ DIANNE LEDINGHAM Dianne Ledingham	Director
_____ /s/ SHARON ROWLANDS Sharon Rowlands	Director
_____ /s/ LARRY WEBER Larry Weber	Director

SUBSIDIARIES OF PEGASYSTEMS INC*

Name of Subsidiary	State or Jurisdiction of Entity
Antenna Software, LLC	Delaware
Pegasystems BV	Netherlands
Pegasystems France	France
Pegasystems GmbH	Germany
Pegasystems Limited	United Kingdom
Pegasystems PTY Limited	Australia
Pegasystems Software Limited sp. z.o.o.	Poland
Pegasystems Worldwide India Private Limited	India

* Omits subsidiaries, which, considered in the aggregate, would not constitute a significant subsidiary.

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statements Nos. 333-09305, 333-89707, 333-53746, 333-104788, 333-116660, 333-135596, 333-166287, 333-166544, 333-176810, 333-213953, and 333-239889 on Form S-8 of our report dated February 16, 2022, relating to the financial statements of Pegasystems Inc. and the effectiveness of Pegasystems Inc.'s internal control over financial reporting, appearing in this Annual Report on Form 10-K for the year ended December 31, 2021.

/s/ Deloitte & Touche LLP

Boston, Massachusetts

February 16, 2022

CERTIFICATION

I, Alan Trefler, certify that:

1. I have reviewed this Annual Report on Form 10-K of Pegasystems Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations, and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) 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, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. 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 the equivalent functions):
 - a. all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: February 16, 2022

/s/ ALAN TREFLER

Alan Trefler
Chairman and Chief Executive Officer
(Principal Executive Officer)

CERTIFICATION

I, Kenneth Stillwell, certify that:

1. I have reviewed this Annual Report on Form 10-K of Pegasystems Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations, and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) 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, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. 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 the equivalent functions):
 - a. all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: February 16, 2022

/s/ KENNETH STILLWELL

Kenneth Stillwell
Chief Operating Officer and Chief Financial Officer
(Principal Financial Officer)

**CERTIFICATION PURSUANT TO SECTION 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report of Pegasystems Inc. (the “Company”) on Form 10-K for the year ended December 31, 2021 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), Alan Trefler, Chairman and Chief Executive Officer of Pegasystems Inc., and Kenneth Stillwell, Chief Operating Officer and Chief Financial Officer of Pegasystems Inc., each certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: February 16, 2022

/s/ ALAN TREFLER

Alan Trefler
Chairman and Chief Executive Officer
(Principal Executive Officer)

/s/ KENNETH STILLWELL

Kenneth Stillwell
Chief Operating Officer and Chief Financial Officer
(Principal Financial Officer)