

Roper
TECHNOLOGIES

**SIMPLE IDEAS.
POWERFUL RESULTS.**

2021
ANNUAL REPORT

2021 HIGHLIGHTS

REVENUE

+19%

TO \$5.78 BILLION

ORGANIC
REVENUE

+9%

GROWTH

EBITDA

+22%

TO \$2.21 BILLION

FREE CASH
FLOW
CONVERSION

82%

OF EBITDA

FREE CASH
FLOW

+19%

TO \$1.80 BILLION

ANNUAL
DIVIDEND

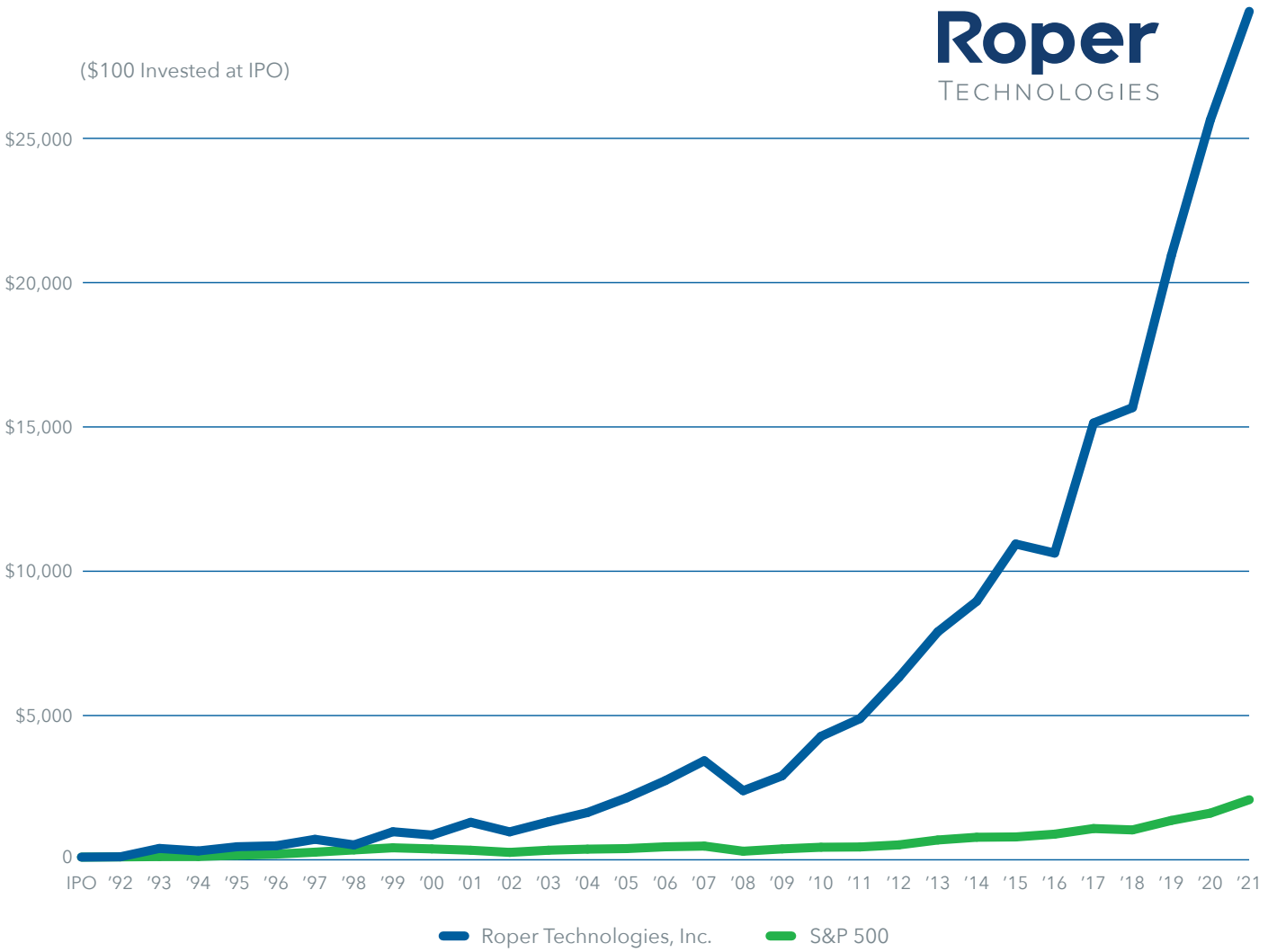
+10%

29TH CONSECUTIVE
ANNUAL INCREASE

TOTAL SHAREHOLDER RETURN

Roper
TECHNOLOGIES

(\$100 Invested at IPO)



DEAR FELLOW SHAREHOLDERS,



“We execute a low-risk strategy focused on acquiring market-leading businesses in defensible niche markets and providing an operating environment for these great businesses to get even better over the arc of time.”

Neil Hunn

Introduction

2021 marked another excellent year for Roper, highlighted by continued strong execution across our portfolio, generating double-digit revenue, EBITDA, and cash flow growth. As the enterprise continues to compound cash flow, our businesses are investing for sustained long-term growth and continue to make progress against their strategic objectives.

2021 Overview

Our businesses continued to perform well in 2021, despite challenging market conditions as the economy recovers from the global pandemic. Revenue increased +19% to \$5.78 billion and organic revenue increased +9%. Importantly, we continue to improve the quality of our revenue base by growing our software recurring revenue, which now represents ~80% of our software revenue and ~50% of Roper’s total revenue. EBITDA increased +22% to \$2.21 billion with EBITDA margins expanding 90 basis points to 38.2%.

Cash flow growth and conversion remained robust in 2021, with free cash flow increasing +19% to \$1.80 billion, representing 31% of revenue and 82% of EBITDA. Following \$6 billion of capital deployment in 2020, Roper reduced its debt by \$1.7 billion in 2021, exceeding our planned pace of deleveraging.

Although Roper will continue to allocate most of its excess cash flow toward acquisitions, we remain committed to increasing our dividend to shareholders. With a 10% increase, 2021 marked the 29th consecutive year that we have increased our annual dividend.

Also, during the year, we announced the divestitures of three businesses – TransCore, Zetec, and CIVCO Radiotherapy. Roper’s long-term strategy has been twofold – grow and compound the size of the enterprise while, simultaneously, improving the quality of our businesses and portfolio composition. Over the last 20 years, we have primarily improved the quality of the enterprise through both organic growth and capital deployment. In 2021, we also took further actions to improve the quality of our portfolio by divesting these three asset-intensive and slower-growing businesses.

In addition, the after-tax cash proceeds from these transactions enhance our near-term capital deployment capacity to help further improve the quality of the enterprise.

2021 was a very busy, but wildly productive, year for everyone at Roper. I would like to thank the entire Roper team and each of our 19,000 employees for their elite performance throughout the year.

Strategic Transactions

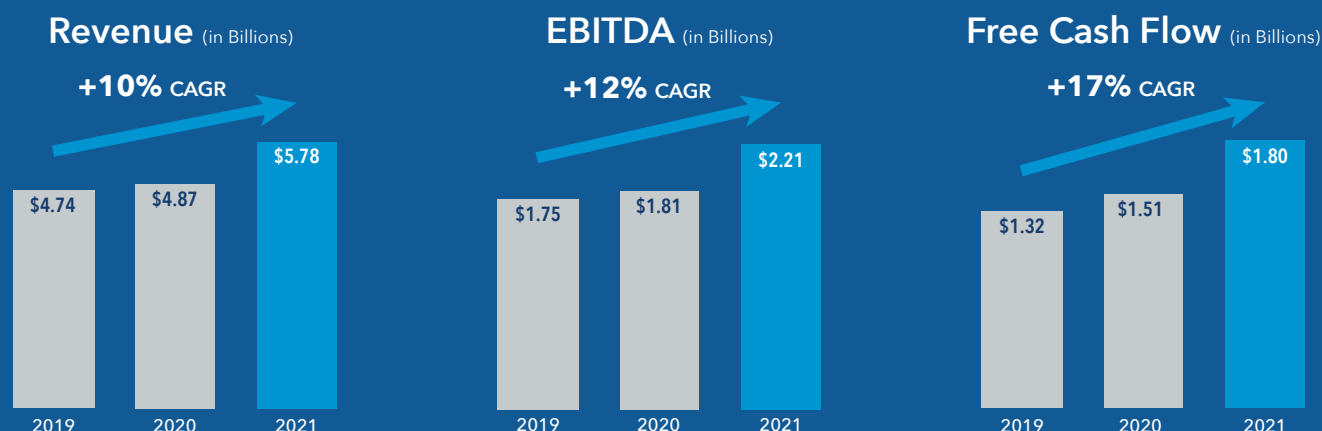
During 2021, we announced the divestitures of our TransCore, Zetec, and CIVCO Radiotherapy businesses for a combined \$3.15 billion. These divestitures will meaningfully improve the quality and durability of Roper’s portfolio. The removal of the project-oriented TransCore business will enhance our mix of predictable, high-margin, recurring revenue and significantly improve our working capital position. The after-tax proceeds from these transactions will further expand Roper’s capacity to deploy capital toward our robust pipeline of high-quality acquisition opportunities. Combined with our disciplined capital deployment approach, we expect these strategic transactions to further enhance Roper’s ability to consistently compound cash flow and shareholder returns.

Long-Term Compounding Performance

Over the past 15 years, Roper’s shareholders have earned a compounded return of +17% and a total return of +969%, nearly three times the total return of the S&P 500. This outstanding shareholder return has been driven by Roper’s ability to consistently compound cash flow while continuously improving the quality of that cash flow. Our free cash flow has compounded +15% annually over the past 15 years and during this time we have significantly enhanced the quality of our portfolio. Gross margin expanded 1,720 basis points, EBITDA margin expanded 1,350 basis points, and net working capital has improved from +11.0% of revenue to negative 13.0% of revenue. Structurally, for Roper, working capital continues to be a source of cash as we grow, and we remain well positioned to further improve Roper’s working capital position.

Portfolio

Roper owns and actively operates a portfolio of 43 businesses that each maintain a leadership position



in a growing and defensible niche market. While our businesses participate in a variety of end markets, there are several common elements that enable them to successfully compete and win. Smaller markets serve as competitive moats for our businesses and limit the attractiveness of their markets to new entrants. Roper's businesses provide highly vertical or application-specific technology solutions that are tailored to their specific end market. Our businesses deliver high-value solutions, and they focus their innovation on the needs and requirements of their customers. Resource allocation decisions are made at the individual business level, which enables nimble execution in the context of each business' specific market. Finally, our businesses compete on the intimacy they maintain with their customers, not on asset-intensive scale, and they are focused on building for long-term competitive advantage.

Operating Structure

Roper's model provides an environment that enables our great businesses to get even better over the long term. Our decentralized operating structure allows our businesses to focus on competing and winning in their growing niche markets. Roper's business leaders have a high level of autonomy and accountability, and are committed to remaining with a single business instead of moving across our portfolio. Importantly, the incentive structure for our business leaders is linked to the organic EBITDA growth of their individual business, not to a negotiated annual budget. Roper's executive team provides Socratic coaching on strategy, strategy execution, and talent, which are all key enablers of long-term and sustained improvement.

The TransCore divestiture created an opportunity to highlight the value added by Roper's business model over our 17-year ownership period. Our governance and incentive system enabled the TransCore leadership team to meaningfully improve its project capabilities and product innovation, resulting in increased market share and continued market leadership. As part of the TransCore acquisition, Roper acquired DAT and Loadlink, and we will retain these network software businesses. Our long-term investment support and independent operating structure have enabled these software businesses to

invest in network-expanding product innovation, grow their recurring revenue bases with high levels of customer intimacy, and deliver higher organic growth rates than the project-oriented, and now divested, TransCore business. These high-quality, recurring revenue software businesses will continue to benefit Roper going forward.

Talent and Culture

Roper's culture is at the center of everything we do as a company. Our culture emphasizes trust, mutual respect, and humility as foundational elements for all interactions.

We have high performance expectations across the enterprise. We expect our business leaders to compete and win in their respective marketplaces, while improving their business fundamentals. We expect each of our leaders to build their business with a long-term perspective, emphasizing repeatability and process orientation. We expect our leaders to continually learn and grow.

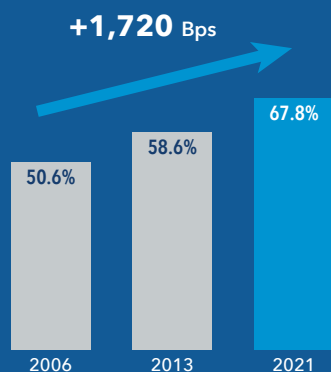
To this end, as we recruit and train our business unit leaders, we focus on four key attributes: 1) autonomous competitiveness, 2) a continuous learning mindset, 3) ability to act as a strategic operator, and 4) being a passionate builder. We desire for our leaders to be self-driven and set high performance expectations. We look for leaders who are dissatisfied with the status quo and who continuously seek to improve and learn. Further, we expect our leaders to take actions to stay competitively ahead, while bringing discipline and structure to execute with consistency. Finally, we seek leaders who are passionate about building authentic organizational capability and inspiring high-performance, diverse, and inclusive teams.

When these four elements are present in our leaders and their leadership teams, we see exceptional execution, which improves long-term organic growth while improving fundamentals within their business.

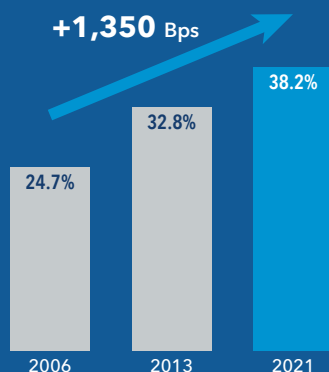
Capital Deployment

Our highly centralized capital deployment approach enables a disciplined, sustainable, and low-risk model that is focused on identifying and acquiring the best available businesses. Roper's corporate team is responsible for

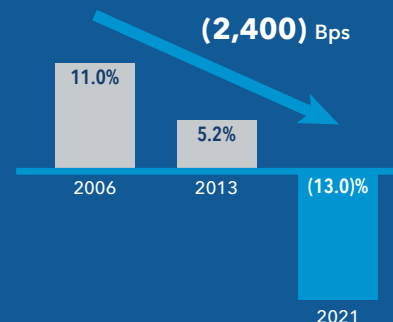
Full Year Gross Margin



Full Year EBITDA Margin



Net Working Capital As % of Q4 Annualized Revenue



Note: 2006 and 2013 as previously reported. 2021 on a continuing operations basis.

all capital deployment decisions, allowing our business leaders to remain focused on the organic growth of their individual businesses. Our process-driven and highly repeatable approach is focused on business model quality and not limited to a particular set of end markets. We source our acquisition candidates primarily from private equity sponsors, which provides a consistently robust pipeline of M&A opportunities. Roper offers a permanent home for its acquired businesses while supporting and incentivizing a long-term, organic growth orientation.

Roper utilizes a consistent set of criteria for its acquisitions to ensure all capital deployment decisions are made to maximize shareholder value. Our acquired businesses must be a proven #1 or #2 in a growing niche market with a focus on a providing highly vertical or application-specific technology solutions. Acquisition targets must also have a durable organic growth profile that is supported by a high mix of predictable recurring revenue. Potential Roper businesses must have strong margins and cash flow conversion, along with an ability to grow without consuming capital. Finally, we look for management teams that are committed to staying with their business and who are passionate about building over the long term.

Cash Return on Investment ("CRI")

CRI remains Roper's north star, as it has been for the past 20+ years. It provides an unbiased, objective, and analytical view of business model quality by focusing on the consistent generation of cash flow and minimizing the assets required to generate cash flow. CRI will continue to help us identify the highest quality businesses for acquisition and ensure the businesses in our portfolio are generating shareholder value.

Commitment to ESG

Roper's governance model and culture enable an authentic focus on ESG, and these issues are central to our operations, customer engagement, and long-term competitive position. We recently published our first ESG report to our website, providing an overview of the most relevant issues for the company, disclosing data that demonstrates our performance in these areas, highlighting the positive impact created by our businesses, and identifying areas where we aspire to improve. I encourage each of you to read the report and join us on our journey for improved ESG performance.

Simple Strategy

As I often say, what we do at Roper is very simple. We compound cash flow. We execute a low-risk strategy focused on acquiring market-leading businesses in defensible niche markets and providing an operating environment for these great businesses to get even better over the arc of time. The combination of our decentralized operating structure and disciplined deployment of excess free cash flow are designed for long-term shareholder value creation. These simple ideas deliver powerful results.

Looking Ahead

Roper is entering 2022 with considerable tailwinds. Our growing software recurring revenue base will continue to be a source of momentum for the enterprise, and we will benefit from the strong demand and record backlog of our product businesses. Roper's businesses get better every year, and we expect their sustained focus on strategy execution and talent to support this trend of continuous improvement. Our reloaded balance sheet provides substantial M&A firepower, which is further amplified by the proceeds from our recent divestitures. With a strong pipeline of high-quality acquisition opportunities and organic growth momentum, we are well positioned for continued double-digit cash flow compounding.

Finally, you may have noticed that this annual report features an updated Roper logo and that we also recently refreshed our corporate website. Prior to this change, Roper had been using the same logo since 1977. Our intention is to reflect the transformation of Roper while staying true to our history and to our roots. We hope you enjoy the new look of our logo and simplified navigation of our website.

Thank you for being a valued shareholder!

Sincerely,

Neil Hunn

Unless otherwise noted, financial information is presented on an adjusted (non-GAAP) and continuing operations basis. A reconciliation can be found on page 66. Please see information about forward looking statements on page 9.



2021 FORM 10-K

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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
- TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from _____ to _____
- Commission File Number 1-12273

ROPER TECHNOLOGIES, INC.

(Exact name of Registrant as specified in its charter)

Delaware **51-0263969**
(State or other jurisdiction of (I.R.S. Employer
incorporation or organization) Identification No.)

6901 Professional Parkway, Suite 200
Sarasota, Florida 34240
(Address of principal executive offices) (Zip Code)
Registrant's telephone number, including area code: **(941) 556-2601**

SECURITIES REGISTERED PURSUANT TO SECTION 12(b) OF THE ACT:

Title of Each Class	Trading Symbol	Name of Each Exchange On Which Registered
Common Stock, \$0.01 Par Value	ROP	New York Stock Exchange

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 15(d) of the Securities Exchange Act of 1934. 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 (§223.405) 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, or a smaller reporting company (as defined 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 issues its audit report.

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

Based on the closing sale price on the New York Stock Exchange on June 30, 2021, the aggregate market value of the voting and non-voting common stock held by non-affiliates of the registrant was: \$49.3 billion.

Number of shares of registrant's Common Stock outstanding as of February 11, 2022: 105,602,835.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's Proxy Statement to be furnished to Stockholders in connection with its 2022 Annual Meeting of Stockholders are incorporated by reference into Part III, Items 10, 11, 12, 13 and 14 of this Annual Report on Form 10-K.

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INFORMATION ABOUT FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K (“Annual Report”) includes and incorporates by reference “forward-looking statements” within the meaning of the federal securities laws. In addition, we, or our executive officers on our behalf, may from time to time make forward-looking statements in reports and other documents we file with the U.S. Securities and Exchange Commission (“SEC”) or in connection with oral statements made to the press, potential investors or others. All statements that are not historical facts are “forward-looking statements.” Forward-looking statements may be indicated by words or phrases such as “anticipate,” “estimate,” “plans,” “expects,” “projects,” “should,” “will,” “believes” or “intends” and similar words and phrases. These statements reflect management’s current beliefs and are not guarantees of future performance. They involve risks and uncertainties that could cause actual results to differ materially from those expressed or implied in any forward-looking statement. Such risks and uncertainties include any ongoing impacts of the COVID-19 pandemic on our business, operations, financial results and liquidity, which will depend on numerous evolving factors that we cannot accurately predict or assess, including: the duration and scope of the pandemic, new variants of the virus and the distribution and efficacy of vaccines; the impact of vaccine mandates on our workforce in certain jurisdictions; any negative impact on global and regional markets, economies and economic activity; actions governments, businesses and individuals take in response to the pandemic; the effects of the pandemic, including all of the foregoing, on our employees, customers, suppliers, and business partners, and how quickly economies and demand for our products and services recover following the pandemic.

Examples of forward-looking statements in this report include but are not limited to statements regarding operating results, the success of our operating plans, our expectations regarding our ability to generate cash and reduce debt and associated interest expense, profit and cash flow expectations, the prospects for newly acquired businesses to be integrated and contribute to future growth, our expectations regarding growth through acquisitions and the ability to complete the announced divestiture of our TransCore business, including obtaining any required regulatory approvals with respect thereto. Important assumptions relating to the forward-looking statements include, among others, demand for our products, the cost, timing and success of product upgrades and new product introductions, raw material costs, expected pricing levels, expected outcomes of pending litigation, competitive conditions and general economic conditions. These assumptions could prove inaccurate. Although we believe that the estimates and projections reflected in the forward-looking statements are reasonable, our expectations may prove to be incorrect. Important factors that could cause actual results to differ materially from estimates or projections contained in the forward-looking statements include but are not limited to:

- general economic conditions;
- difficulty making acquisitions and successfully integrating acquired businesses;
- any unforeseen liabilities associated with future acquisitions;
- limitations on our business imposed by our indebtedness;
- unfavorable changes in foreign exchange rates;
- failure to effectively mitigate cybersecurity threats, including any litigation arising therefrom;
- failure to comply with new data privacy laws and regulations, including any litigation arising therefrom;
- difficulties associated with exports/imports and risks of changes to tariff rates;
- risks and costs associated with our international sales and operations;
- rising interest rates;
- product liability and insurance risks;
- increased warranty exposure;
- future competition;
- the cyclical nature of some of our markets;
- reduction of business with large customers;
- risks associated with government contracts;
- changes in the supply of, or price for, labor, energy, raw materials, parts and components, including as a result of impacts from the current inflationary environment, ongoing supply chain constraints or COVID-19;
- environmental compliance costs and liabilities;
- risks and costs associated with asbestos-related litigation;
- potential write-offs of our goodwill and other intangible assets;
- our ability to successfully develop new products;
- failure to protect our intellectual property;
- the effect of, or change in, government regulations (including tax);
- economic disruption caused by terrorist attacks, health crises (such as the COVID-19 pandemic) or other unforeseen geopolitical events; and
- the factors discussed in Item 1A to this Annual Report under the heading “Risk Factors.”

You should not place undue reliance on any forward-looking statements, which are based on current expectations. Further, forward-looking statements speak only as of the date they are made, and we undertake no obligation to publicly update any of these statements in light of new information or future events.

PART I

ITEM 1 | BUSINESS

ALL CURRENCY AMOUNTS ARE IN MILLIONS UNLESS SPECIFIED

OUR BUSINESS

Roper Technologies, Inc. (“Roper,” the “Company,” “we,” “our” or “us”) is a diversified technology company. We operate businesses that design and develop software (both license and Software-as-a-Service (“SaaS”)) and engineered products and solutions for a variety of niche end markets.

We pursue consistent and sustainable growth in earnings and cash flow by emphasizing continuous improvement in the operating performance of our existing businesses and by acquiring other businesses that offer high value-added software, services, engineered products and solutions that we believe are capable of achieving growth and maintaining high margins. We compete in many niche markets and believe we are the market leader or a competitive alternative to the market leader in most of these markets. In the last three years, we have deployed nearly \$8.6 billion of capital toward acquisitions, including approximately \$5.4 billion in 2020 for the acquisition of Vertafore, Inc., a leading provider of SaaS solutions for the property and casualty insurance industry.

During 2021, Roper signed definitive agreements to divest its TransCore, Zetec and CIVCO Radiotherapy businesses for an aggregate of approximately \$3.2 billion in cash. Roper has completed the divestitures of Zetec and CIVCO Radiotherapy, in the first quarter of 2022 and fourth quarter of 2021, respectively, and expects the TransCore transaction to close in the first quarter of 2022 for approximately \$2.7 billion. The financial results for these businesses are reported as discontinued operations for all periods presented. Information regarding discontinued operations is included in Note 3 of the Notes to Consolidated Financial Statements.

We were incorporated on December 17, 1981 under the laws of the State of Delaware.

MARKET SHARE, MARKET EXPANSION, AND PRODUCT DEVELOPMENT

Leadership with Engineered Content for Niche Markets—We maintain a leading position in many of our markets. We believe our market positions are attributable to the technical sophistication of our products and software, the applications expertise used to create our advanced products and systems, and our distribution and service capabilities. Our businesses realize growth from new and existing customers in their niche markets through successfully executing go-to-market strategies, developing new products and applications, and delivering professional services.

Diversified End Markets and Geographic Reach—We have a global presence, with sales to customers outside the U.S. totaling \$1,342.2 in 2021. Information regarding our international operations is set forth in Note 14 of the Notes to Consolidated Financial Statements included in this Annual Report.

OUR REPORTABLE SEGMENTS

Our operations are reported in four segments based upon business models and capital deployment strategy and objectives. The segments are: Application Software, Network Software & Systems, Measurement & Analytical Solutions and Process Technologies. Financial information about our reportable segments is presented in Note 14 of the Notes to Consolidated Financial Statements included in this Annual Report.

Application Software

Our Application Software segment had net revenues of \$2,380.6 for the year ended December 31, 2021, representing 41.2% of our total net revenues. Below is a description of the products offered by business that comprise the Application Software segment.

Aderant—provides comprehensive management software solutions for law and other professional services firms, including business development, calendar/docket matter management, time and billing and case management.

CBORD—provides campus solutions software including access and cashless systems and food and nutrition service management serving primarily higher education and healthcare markets.

CliniSys—provides diagnostic and laboratory information management software solutions.

Data Innovations—provides software solutions that enable enterprise management of hospitals and independent laboratories.

Deltek—provides enterprise software and information solutions for government contractors, professional services firms and other project-based businesses.

Horizon—provides software, services, and technologies for foodservice operations—specializing in K-12.

IntelliTrans—provides transportation management software and services to bulk and break-bulk commodity producers.

PowerPlan—provides financial and compliance management software and solutions to large complex companies in asset-intensive industries.

Strata—provides cloud-based financial analytics and performance management software that is used by healthcare providers for financial planning, decision support and continuous cost improvement.

Vertafore—provides cloud-based software to the property and casualty insurance industry, including agency management, compliance, workflow, and data solutions.

Network Software & Systems

Our Network Software & Systems segment had net revenues of \$1,338.4 for the year ended December 31, 2021, representing 23.2% of our total net revenues. Below is a description of the products offered by business that comprise the Network Software & Systems segment.

ConstructConnect—provides cloud-based data, collaboration and estimating automation software solutions to a network of pre-construction contractors.

DAT—provides electronic marketplaces that connect available capacity of trucking units with the available loads of freight throughout North America.

Foundry—provides software technologies used to deliver visual effects and 3D content for the entertainment and digital design industries.

Inovonics—provides high performance wireless sensor network and solutions for a variety of applications.

iPipeline—provides cloud-based software solutions for the life insurance and financial services industries.

iTradeNetwork—provides electronic marketplaces and supply chain software that connect food suppliers, distributors and vendors, primarily in the perishable food sector.

Link Logistics—provides electronic marketplaces that connect available capacity of trucking units with the available loads of freight throughout Canada.

MHA—provides health care service and software solutions to alternate site health care markets.

RF IDEas—provides RFID card readers used in numerous identity access management applications across a variety of vertical markets.

SHP—provides data analytics and benchmarking information for the post-acute healthcare provider marketplace.

SoftWriters—provides software solutions to pharmacies that primarily serve the long term care marketplace.

Measurement & Analytical Solutions

Our Measurement & Analytical Solutions segment had net revenues of \$1,559.6 for the year ended December 31, 2021, representing 27.0% of our total net revenues. Below is a description of the products offered by business that comprise the Measurement & Analytical Solutions segment.

Alpha—provides precision rubber and polymer testing instruments, and data analysis software.

CIVCO Medical Solutions—provides accessories focused on guidance and infection control for ultrasound procedures.

Dynisco—provides solutions for testing and analyzing plastics used in a variety of end markets.

FMI—provides dispensers and metering pumps which are utilized in a broad range of applications requiring precision fluid control.

Hansen—provides control valves for large industrial refrigeration systems.

Hardy—provides precision weighing equipment for process and packaging for a variety of industries including food processing, automated manufacturing, chemical, plastics, and rubber.

IPA—provides automated surgical scrub and linen dispensing equipment for healthcare providers.

Logitech—provides equipment and consumables used for sample preparation and material analysis used primarily in the semiconductor and geological science industries.

Neptune—provides water meters, enabling water utilities to remotely monitor their customers utilizing Automatic Meter Reading (AMR) and Advanced Metering Infrastructure (AMI) technologies.

Northern Digital—provides optical and electromagnetic precision measurement systems for medical and industrial applications.

Struers—provides equipment and consumables for sample preparation and testing of solid materials used across a variety of end markets.

Technolog—provides products and services to water and gas utilities, used for network monitoring, pressure control, and remote meter reading.

Uson—provides automated leak detection equipment for a variety of end markets, including automotive, medical device, pharmaceutical, and general industrial.

Verathon—provides medical devices that enable airway management and bladder volume measurement solutions for healthcare providers.

Process Technologies

Our Process Technologies segment had net revenues of \$499.2 for the year ended December 31, 2021, representing 8.6% of our total net revenues. Below is a description of the products offered by business that comprise the Process Technologies segment.

AMOT—provides temperature control and emergency shutoff valves used by customers in the energy and general industrial end markets.

CCC—provides turbomachinery control hardware, software, and services for customers across the upstream, midstream, and downstream energy markets.

Cornell—provides specialized pumps used across a variety of end markets, including agriculture, energy, food processing, mining, waste water processing, and general industrial.

FTI—provides flow meter calibrators, and controllers used primarily in the aerospace, automotive, energy, and general industrial end markets.

Metrix—provides vibration monitoring systems and controls across a variety of end markets.

PAC—provides analytical instruments used by energy refineries and laboratories.

Roper Pump—provides specialty pumps and drilling power sections used by customers in the energy, general industrial, and transportation end markets.

Viatran—provides pressure and level sensors for energy and general industrial end markets.

MATERIALS AND SUPPLIERS

We believe most materials and supplies we use are readily available from numerous sources and suppliers throughout the world. However, some components and sub-assemblies are currently available from only a limited number of suppliers. We regularly investigate and identify alternative sources where possible, and we believe these conditions equally affect our competitors. Although supply shortages have not had a material adverse effect on our revenues, we expect to continue to be impacted by supply chain challenges including increased material costs, component shortages and transportation disruptions and delays, all of which could escalate in the future.

REMAINING PERFORMANCE OBLIGATIONS AND BACKLOG

Remaining performance obligations represents the transaction price of firm orders for which work has not been performed and excludes unexercised contract options. As of December 31, 2021 and December 31, 2020, the aggregate amount of the transaction price allocated to remaining performance obligations was \$3,790.4 and \$2,958.8, respectively.

Backlog is equal to our remaining performance obligations expected to be recognized as revenue within the next 12 months. Backlog was \$2,560.8 at December 31, 2021, and \$2,061.8 at December 31, 2020.

DISTRIBUTION AND SALES

Distribution and sales occur primarily through direct sales offices, manufacturers' representatives, resellers and distributors.

GOVERNMENTAL REGULATIONS

We face extensive government regulation around the world relating to the development, manufacture, marketing, sale and distribution of our products, software, and services. The following sections describe certain significant regulations to which we are subject, but these are not the only regulations to which our businesses must comply. For a description of the risks related to the regulations that our businesses are subject to, please refer to "Item 1A. Risk Factors."

Privacy and Data Security

We are subject to privacy and data security laws around the world that may impose operational burdens on our businesses. In 2018, the General Data Protection Regulation became effective in the European Union and United Kingdom and imposed restrictions on how companies use and process personal information. In the United States, several states have adopted legislation that imposes similar (but not identical) restrictions on companies conducting business or serving customers in those states. For example, in January 2020 the California Consumer Privacy Act became effective and required companies to make disclosures to consumers about their data collection, use, and sharing practices; allowed consumers to opt out of certain data sharing with third parties; and provided a private right of action for data breaches. Virginia and Colorado have passed similar legislation that will become effective in 2023, as will newly enacted changes to California's privacy laws. Canada (Quebec) and

China have also significantly updated their privacy laws. The compliance and other burdens on our businesses imposed by these privacy laws and regulations may be substantial as we work to comply with differing legal and implementation requirements across multiple jurisdictions.

Healthcare Regulations

The manufacture, sale, lease and service of medical diagnostic and surgical devices intended for commercial use are subject to extensive governmental regulation by the FDA in the U.S. and by a variety of regulatory agencies in other countries for some of our businesses. Under the Federal Food, Drug and Cosmetic Act, known as the FD&C Act, manufacturers of medical products and devices must comply with certain regulations governing the design, testing, manufacturing, packaging, servicing and marketing of medical products. FDA product approvals may be withdrawn or suspended if compliance with regulatory standards is not maintained or if problems occur following initial marketing. We are also subject to a variety of federal, state and foreign laws which broadly relate to our interactions with healthcare practitioners and other participants in the healthcare system, including, among others, anti-kickback law, and laws regulating the confidentiality of sensitive personal information and the circumstances under which such information may be released and/or collected, such as the Health Insurance Portability and Accountability Act of 1996, or HIPAA, the Health Information Technology for Economic and Clinical Health Act, or HITECH Act, and the GDPR.

Anti-Corruption and Anti-Bribery Laws and Regulations

We are subject to the U.S. Foreign Corrupt Practices Act (FCPA) and anti-corruption laws, and similar laws in foreign countries, such as the UK Anti-Bribery Act. Any violation of these laws by us or our agents or distributors could create substantial liability for us, subject our officers and directors to personal liability, and cause a loss of reputation in the market. Increased business in higher risk countries could subject us and our officers and directors to increased scrutiny and increased liability. In addition, becoming familiar with and implementing the infrastructure necessary to comply with laws, rules and regulations applicable to new business activities and mitigating and protecting against corruption risks could be quite costly.

Export Controls and Trade Policies

We are subject to numerous domestic and foreign regulations relating to our operations worldwide. In particular, our sales activities must comply with restrictions relating to the export of controlled technology and sales to denied or sanctioned parties contained in the U.S. Export Administration Regulations, U.S. International Traffic in Arms Regulations (ITAR), and sanctions administered by the Office of Foreign Asset Controls of the U.S. Treasury Department (OFAC). Our businesses may also be impacted by additional domestic or foreign trade regulations ensuring fair trade practices, including trade restrictions, tariffs and sanctions.

Environmental Regulations

Our operations and properties are subject to laws and regulations relating to environmental protection, including those governing air emissions, water discharges, waste management and workplace safety. We use, generate and dispose of hazardous substances and waste in our operations and could be subject to material liabilities relating to the investigation and clean-up of contaminated properties and related claims. We are required to conform our operations and properties to these laws and adapt to regulatory requirements in all countries as these requirements change. In connection with our acquisitions, we may assume significant environmental liabilities, some of which we may not be aware of, or may not be quantifiable, at the time of acquisition. In addition, new laws and regulations, the discovery of previously unknown contamination or the imposition of new requirements could increase our costs or subject us to new or increased liabilities.

CUSTOMERS

No customer accounted for 10% or more of net revenues for 2021 for any of our segments or for our Company as a whole.

COMPETITION

Generally, our products and solutions face significant competition, usually from a limited number of competitors. We believe that we are a leader in most of our markets, and no single company competes with us over a significant number of product lines. Competitors might be large or small in size, often depending on the size of the niche market we serve. We compete primarily on product quality, performance, innovation, technology, price, applications expertise, system and service flexibility, distribution channel access and customer service capabilities.

INTELLECTUAL PROPERTY

In addition to trade secrets, including unpatented know-how and other intellectual property like software source code, we own or license the rights under numerous patents, trademarks, trade dress and copyrights relating to certain of our products and businesses. We also employ various methods, including confidentiality and non-disclosure agreements with individuals and companies we do business with, including employees, distributors, representatives, independent contractors and customers to protect our intellectual property. We believe none of our operating units are substantially dependent on any single item of intellectual property, including a trade secret, patent, trademark, trade dress, or copyright.

HUMAN CAPITAL MANAGEMENT

Roper is a diversified technology company that utilizes a decentralized operating model across our many businesses which serve a diverse set of end markets. Subject to oversight and guidance from Roper executive management, each business operates as an individual unit with its managers empowered to make day to day operating decisions, including decisions with respect to human capital management. As a result, apart from guidance with respect to: (i) compliance with regulatory requirements or corporate policies; and (ii) the implementation of compensation and benefit programs provided by corporate management, managers at individual businesses are the primary decision makers with respect to human capital management and development. Though our individual businesses are primarily responsible for these decisions, because of the importance of human capital to our enterprise, we provide guidance and share best practices on key aspects of selection, development, engagement and diversity of talent within our workforce.

As of December 31, 2021, we employed approximately 19,300 people worldwide on a consolidated basis, of which approximately 12,300 were employed in the United States and approximately 7,000 were outside of the United States. Approximately 2,200 of these employees are employed by Zetec (which closed in the first quarter of 2022) and TransCore (which is expected to close in the first quarter of 2022). Management believes that the Company's employee relations are favorable.

A very small portion of the Company's U.S. employees are unionized. Outside the U.S., we have some employees, particularly in Europe, that are represented by an employee representative organization, such as a union, works council or employee association.

Roper has identified and implemented other human capital priorities, including providing competitive wages and benefits, and promoting a diverse and inclusive work environment. The Company is committed to increasing diversity and fostering an inclusive work environment that supports our large global workforce and helps us innovate for our customers. We continue to focus on building a pipeline for talent to create more opportunities for workplace diversity and to support greater representation within the Company.

Roper is a founding member of the OneTen Coalition. OneTen is an organization that plans to combine the power of over 30 committed large, public American companies to upskill, hire and promote one million Black Americans over the next 10 years into family-sustaining jobs with opportunities for advancement. Among the coalition's founding members, Roper is uniquely situated to connect Black Americans with employment opportunities at many of our smaller and growing businesses.

In response to the COVID-19 pandemic and related mitigation measures we have implemented changes in our business in an effort to protect our employees and customers, and to support appropriate health and safety protocols. For example, we implemented cleaning and sanitation processes for both production and office administration spaces and implemented broad work-from-home initiatives. While employees in our Application Software and Network Software & Solutions businesses, as well as employees in corporate and administrative functions throughout the Company worked remotely throughout much of the pandemic, many employees have returned to offices where such can be done in a safe manner. Employees at our manufacturing and assembly facilities (primarily in our Measurement & Analytical Solutions and Process Solutions businesses) have continued to work throughout the pandemic with only minor disruption.

AVAILABLE INFORMATION

All reports we file electronically with the SEC, including our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and our annual proxy statements, as well as any amendments to those reports, are accessible at no cost on our website at www.ropertech.com as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. These filings are also accessible on the SEC's website at www.sec.gov. Our Corporate Governance Guidelines; the charters of our Audit Committee, Compensation Committee, and Nominating and Governance Committee; and our Business Code of Ethics and Standards of Conduct are also available on our website. Any amendment to the Business Code of Ethics and Standards of Conduct and any waiver applicable to our directors, executive officers or senior financial officers will be posted on our website within the time period required by the SEC and the New York Stock Exchange (the "NYSE"). The information posted on our website is not incorporated into this Annual Report or any other filing made by Roper with the SEC.

ITEM 1A | RISK FACTORS

RISKS RELATED TO ECONOMIC AND POLITICAL CONDITIONS

Impacts related to the COVID-19 pandemic could have an adverse effect on our business, financial condition, results of operations and cash flows.

We continue to closely monitor the impact of the COVID-19 global pandemic on our business, including how it has and will impact our customers, employees, suppliers, vendors and business partners. The COVID-19 global pandemic has created significant volatility, uncertainty and economic disruption, which may continue to affect our business operations and may materially and adversely affect our results of operations, cash flows and financial position.

The COVID-19 global pandemic has caused certain disruptions to our business and operations and could cause material disruptions to our business and operations in the future as a result of, among other things, quarantines, worker absenteeism as a result of illness or other factors, social distancing measures and other travel, health-related, business or other restrictions. The effects of the pandemic have created and exacerbated challenges with the attraction and retention of talent.

The COVID-19 global pandemic has and may continue to adversely impact, our suppliers and customers. As a result of the effects of the COVID-19 global pandemic our ability to obtain products or services from certain suppliers and to operate at certain locations have been and may continue to be impacted. As a result, our business, financial condition and results of operations have been adversely impacted and could be materially adversely affected if the COVID-19 global pandemic continues or there are resurgences of COVID-19 and its variants.

Vaccine mandates and testing requirements have been announced in jurisdictions where we operate. In addition, certain customers have issued vaccine requirements with respect to our employees who provide on-site service at customer facilities. Our efforts to comply with these mandates, including requiring that some or all of our employees be fully vaccinated against COVID-19, could result in increased labor attrition and disruption, as well as difficulty securing future labor needs, and could adversely impact our ability to deliver services to our U.S. federal government customers and potentially other customers, which could in turn adversely impact our results of operations.

The extent to which the coronavirus outbreak impacts our business, results of operations and financial condition will depend on future developments, which are highly uncertain and are difficult to predict, including, but not limited to, the duration and spread of the outbreak, its severity, the actions to contain the virus and its variants including distribution and administration of available vaccines through mandates or otherwise, and how quickly and to what extent normal economic and operating conditions can resume.

The ultimate impact of the outbreak is highly uncertain and subject to change. In addition, the rapidly changing situation could give rise to additional risks or adverse impacts of which we are not presently aware, such as the ability to complete acquisitions, the ability to obtain credit through the capital markets and/or through our revolving credit facility. We do not yet know the full extent of the impacts on our business, our operations or the global economic and political environment as a whole. However, the effects could have a material impact on our results of operations and heighten many of our known risks described below in this "Risk Factors" section.

Economic, political and other risks associated with our international operations could adversely affect our business.

For the year ended December 31, 2021, 20% of our net revenues and 14% of our long-lived assets, excluding goodwill and intangibles, were attributable to operations outside the U.S. We expect our international operations to contribute materially to our business for the foreseeable future. Our international operations are subject to varying degrees of risk inherent in doing business outside the U.S. including, without limitation, the following:

- adverse changes in a specific country's or region's political or economic conditions, particularly in emerging markets;
- oil price volatility;
- trade protection measures, tariffs, and import or export requirements;
- subsidies or increased access to capital for firms that are currently, or may emerge as, competitors in countries in which we have operations;
- partial or total expropriation;
- potentially negative consequences from changes in tax laws;
- difficulty in staffing and managing widespread operations;
- differing labor regulations;
- differing protection of intellectual property;
- differing and unexpected changes in regulatory requirements, including any measures implemented to address the impacts of climate change; and
- potentially negative consequences from the United Kingdom's exit from the European Union.

RISKS RELATED TO OUR BUSINESS OPERATIONS

Our indebtedness may affect our business and may restrict our operating flexibility.

As of December 31, 2021, we had \$7,921.8 in total consolidated indebtedness. In addition, we had approximately \$2,502 undrawn availability under our senior unsecured credit facility. Subject to restrictions contained in our credit facility, we may incur additional indebtedness in the future, including indebtedness incurred to finance acquisitions.

Our level of indebtedness and the debt servicing costs associated with that indebtedness could have important effects on our operations and business strategy. For example, our indebtedness could:

- limit our ability to borrow additional funds;
- limit our ability to complete future acquisitions;
- limit our ability to pay dividends;
- limit our ability to make capital expenditures;
- place us at a competitive disadvantage relative to our competitors, some of which have lower debt service obligations and greater financial resources; and
- increase our vulnerability to general adverse economic and industry conditions.

Our ability to make scheduled principal payments of, to pay interest on, or to refinance our indebtedness and to satisfy our other debt obligations will depend upon our future operating performance, which may be affected by factors beyond our control. In addition, there can be no assurance that future borrowings or equity financing will be available to us on favorable terms for the payment or refinancing of our indebtedness. If we are unable to service our indebtedness, our business, financial condition and results of operations would be materially adversely affected.

Our credit facility contains covenants requiring us to achieve certain financial and operating results and maintain compliance with specified financial ratios. Our ability to meet the financial covenants or requirements in our credit facility may be affected by events beyond our control, and we may not be able to satisfy such covenants and requirements. A breach of these covenants or our inability to comply with the financial ratios, tests or other restrictions contained in our facility could result in an event of default under this facility. Upon the occurrence of an event of default under our credit facility, and the expiration of any grace periods, the lenders could elect to declare all amounts outstanding under the facility, together with accrued interest, to be immediately due and payable. If this were to occur, our assets may not be sufficient to fully repay the amounts due under this facility or our other indebtedness.

Unfavorable changes in foreign exchange rates may harm our business.

Several of our operating companies have transactions and balances denominated in currencies other than the U.S. dollar. Most of these transactions and balances are denominated in euros, Canadian dollars, British pounds or Danish kroner. Sales by our operating companies whose functional currency is not the U.S. dollar represented 17% and 18% of our total net revenues for the years ended December 31, 2021 and 2020, respectively. Unfavorable changes in exchange rates between the U.S. dollar and those currencies could significantly reduce our reported revenues and earnings.

Our technology is important to our success and our failure to protect this technology could put us at a competitive disadvantage.

Many of our products and services rely on proprietary technology; therefore we believe that the development and protection of intellectual property rights through patents, copyrights, trade secrets, trademarks, confidentiality agreements and other contractual provisions are important to the future success of our business. Despite our efforts to protect proprietary rights, unauthorized parties or competitors may copy or otherwise obtain and use our products or technology. Actions to enforce these rights may result in substantial costs and diversion of resources, and we make no assurances that any such actions will be successful.

Our growth strategy includes acquisitions. We may not be able to identify suitable acquisition candidates, complete acquisitions or integrate acquisitions successfully.

Our future growth is likely to depend to some degree on our ability to acquire and successfully integrate new businesses. We intend to seek additional acquisition opportunities, both to expand into new markets and to enhance our position in existing markets. There are no assurances, however, that we will be able to successfully identify suitable candidates, negotiate appropriate terms, obtain financing on acceptable terms, complete proposed acquisitions, successfully integrate acquired businesses or expand into new markets. Once acquired, operations may not achieve anticipated levels of revenues, profitability or cash flows.

Acquisitions involve risks, including difficulties in the integration of the operations, technologies, services and products of the acquired companies and the diversion of management's attention from other business concerns. Although our management will endeavor to evaluate the risks inherent in any particular transaction, there are no assurances that we will properly ascertain all such risks. In addition, prior acquisitions have resulted, and future acquisitions could result, in the incurrence of substantial additional indebtedness and other expenses. Future acquisitions may also result in potentially dilutive issuances of equity securities. Difficulties encountered with acquisitions may have a material adverse effect on our business, financial condition and results of operations.

Divestitures or other dispositions could negatively impact our business.

Divestitures pose risks and challenges that could negatively impact our business. For example, when we decide to sell or otherwise dispose of a business or assets, we may be unable to do so on satisfactory terms within our anticipated timeframe or at all, and even after reaching a definitive agreement to sell or dispose a business the sale is typically subject to satisfaction of pre-closing conditions which may not become satisfied. The consummation of any divestiture can be difficult, time-consuming

and costly, and we may not be able to successfully complete identified divestitures. They may also cause diversion of management time and focus away from operating our business. In addition, divestitures or other dispositions may have other adverse financial and accounting impacts, and disputes may arise with buyers that could be difficult or costly to resolve.

Product liability, insurance risks and increased insurance costs could harm our operating results.

Our business exposes us to product liability risks in the design, manufacture and distribution of our products. In addition, certain of our products are used in hazardous environments. We currently have product liability insurance; however, we may not be able to maintain our insurance at a reasonable cost or in sufficient amounts to adequately protect us against losses. We also maintain other insurance policies, including directors' and officers' liability insurance and cyber insurance. We believe we have adequately accrued estimated losses, principally related to deductible amounts under our insurance policies, with respect to all product liability and other claims, based upon our past experience and available facts. However, a successful product liability or other claim or series of claims brought against us could have a material adverse effect on our business, financial condition and results of operations. In addition, a significant increase in our insurance costs could have an adverse impact on our operating results.

Our operating results could be adversely affected by a reduction of business with our large customers.

In some of our businesses, we derive a significant amount of revenue from large customers. The loss or reduction of any significant contracts with any of these customers could reduce our revenues and cash flows. Additionally, many of our customers are government entities. In many situations, government entities can unilaterally terminate or modify our existing contracts without cause and without penalty to the government agency.

We face intense competition. If we do not compete effectively, our business may suffer.

We face intense competition from numerous competitors in our various businesses. Our products compete primarily on the basis of product quality, performance, innovation, technology, price, applications expertise, system and service flexibility, distribution channel access and established customer service capabilities. We may not be able to compete effectively on all of these fronts or with all of our competitors. In addition, new competitors may emerge, and product lines may be threatened by new technologies or market trends that reduce the value of these product lines. To remain competitive, we must develop new products, respond to new technologies and enhance our existing products in a timely manner. We anticipate that we may have to adjust prices to stay competitive.

Some of the industries in which we operate are cyclical, and, accordingly, our business is subject to changes in the economy.

Some of the business areas in which we operate are subject to specific industry and general economic cycles. Certain businesses are subject to industry cycles, including but not limited to, the industrial and energy markets. Accordingly, a downturn in these or other markets in which we participate could materially adversely affect us. If demand changes and we fail to respond accordingly, our results of operations could be materially adversely affected. The business cycles of our different operations may occur contemporaneously. Consequently, the effect of an economic downturn may have a magnified negative effect on material portions of our business.

Our goodwill and intangible assets are a significant amount of our total assets, and any write-off of our intangible assets would negatively affect our results of operations.

Our total assets reflect substantial intangible assets, primarily goodwill. At December 31, 2021, goodwill totaled \$14,094.5 compared to \$11,563.8 of stockholders' equity, and represented 59% of our total assets of \$23,713.9. The goodwill results from our acquisitions, representing the excess purchase price over the fair value of the net identifiable assets acquired. We assess at least annually whether there has been an impairment in the value of our goodwill and indefinite economic life intangible assets. If future operating performance at one or more of our business units were to fall significantly below current levels, if competing or alternative technologies emerge, if interest rates rise or if business valuations decline, we could incur a non-cash charge to operating income. Any determination requiring the write-off of a significant portion of goodwill or unamortized intangible assets would negatively affect our results of operations, the effect of which could be material.

We depend on our ability to develop new products, and any failure to develop or market new products could adversely affect our business.

The future success of our business will depend, in part, on our ability to design and manufacture new competitive products and to enhance existing products so that we maintain our margin profile. This product development may require substantial internal investment. There can be no assurance that unforeseen problems will not occur with respect to the development, performance or market acceptance of new technologies or products or that we will otherwise be able to successfully develop and market new products. Failure of our products to gain market acceptance or our failure to successfully develop and market new products could reduce our margins, which would have an adverse effect on our business, financial condition and results of operations.

We rely on information and technology for many of our business operations which could fail and cause disruption to our business operations.

Our business operations are dependent upon information technology networks and systems to securely transmit, process and store electronic information and to communicate among our locations around the world and with clients and vendors. A shut-down of, or inability to access, one or more of our facilities, a power outage or a failure of one or more of our information technology, telecommunications or other systems could significantly impair our ability to perform such functions on a timely basis. We rely on third-party cloud platforms, such as Amazon Web Services, Google Cloud Platform, and Microsoft Azure to host enterprise and customer systems, and any disruptions of these services could impact our business operations and our ability to service customers. Cyber-attacks, configuration or human error and/or other external hazards could result in the misappropriation of assets or sensitive information, corruption of data or operational disruption. For example, in 2020, Vertafore determined that as a result of human error, three data files containing Texas driver's license data were inadvertently stored in an unsecured external storage service that appears to have been accessed without authorization. As a result, Vertafore was named as a defendant in a number of putative class actions regarding the incident.

Global cybersecurity threats and attacks to networks, systems and endpoints can range from uncoordinated individual attempts to gain unauthorized access to IT systems to sophisticated and targeted measures known as advanced persistent threats, directed at the Company, its businesses, its customers and/or its third-party service providers, including, but not limited to, cloud providers and providers of network management services. These may include such things as unauthorized access, phishing attacks, account takeovers, denial of service, introduction of malware or ransomware and other disruptive problems caused by threat actors. Moreover, as more of our employees work remotely due to the COVID-19 pandemic or otherwise, our employees are increasingly targeted by phishing attacks and endpoints may be more susceptible to threat exposures.

Our customers are increasingly requiring cybersecurity protections and mandating cybersecurity standards in our products and services, and we may incur additional costs to comply with such demands. While we have experienced, and expect to continue to experience, these types of threats and incidents, none of them to date have been material to the Company. We seek to deploy measures to deter, prevent, detect, respond to and mitigate these threats, including identity and access controls, data protection, vulnerability assessments, product software designs which we believe are less susceptible to cyber-attacks, continuous monitoring of our networks, endpoints and systems and maintenance of backup and recovery capabilities. Despite these efforts, we can make no assurance that we will be able to detect, prevent, timely and adequately address, or mitigate the negative effects of cyberattacks or other security compromises, and such cybersecurity incidents, depending on their nature and scope, could potentially result in the misappropriation, destruction, corruption or unavailability of critical data and confidential or proprietary information (our own or that of third parties) and the disruption of business operations. The potential consequences of a material cybersecurity incident include financial loss, reputational damage, damage to our IT systems, litigation with third parties, theft of intellectual property, fines, diminution in the value of our investment in research and development, and increased cybersecurity protection and remediation costs due to the increasing sophistication and proliferation of threats, which in turn could adversely affect our competitiveness and results of operations. Any imposition of liability, particularly liability that is not covered by insurance or is in excess of insurance coverage, could materially harm our operating results and financial condition.

Changes in the supply of, or price for, raw materials, parts and components used in our products could affect our business.

The availability and prices of raw materials, parts and components are subject to curtailment or change due to, among other things, suppliers' allocations to other purchasers, interruptions in production by suppliers, supply chain delays and disruptions, changes in exchange rates and prevailing price levels. For example, we expect to continue to be impacted by supply chain challenges, including increased material costs, component shortages and transportation disruptions and delays, all of which could escalate in the future. In addition, some of our products are provided by sole source suppliers. Any change in the supply of, or price for, these parts and components, as well as any increases in commodity prices, particularly copper, could affect our business, financial condition and results of operations.

RISKS RELATED TO GOVERNMENT REGULATIONS

Regulation of privacy and data security may adversely affect sales of our products and services and result in increased compliance costs.

There has been, and likely will continue to be, increased regulation with respect to the collection, use and handling of an individual's personal and financial information. Regulatory authorities around the world have passed or are considering legislative and regulatory proposals concerning data protection, privacy and data security. In the United States, Virginia and Colorado passed new comprehensive privacy legislation, and joined California (which further enhanced its existing privacy laws) in directly regulating the collection, use and sharing of personal information. These statutes create civil penalties for violations, and in the case of California, creates a private right of action for data breaches, that increases the risk of data breach litigation. Absent a pre-emptive Federal privacy law, as more states pass privacy legislation, there is a strong possibility that we will be forced to comply with a patchwork of inconsistent privacy regulations. Globally, personal information collected within the European Union and United Kingdom remains subject to the 2018 General Data Protection Regulation (GDPR), which is a UK and European Union-wide legal framework that governs data collection, use, and sharing of an individual's personal data and creates a range of consumer privacy rights. GDPR provides significant penalties for non-compliance (up to 4% of global revenue) and EU data protection authorities have already issued significant fines. Similarly, in November 2021, China promulgated the

Personal Information Protection Law (PIPL) which regulates the processing of personal information of individuals within China. If a company breaches PIPL it can be assessed fines of up to 5% of its annual revenue. The interpretation and application of consumer and data protection laws and industry standards in the United States, Europe, China and elsewhere can be uncertain and currently is in flux. Cloud-based solutions may be subject to further regulation, including data localization requirements and other restrictions concerning international transfer of data. The operational and cost impact of these cannot be fully known at this time. In addition to the possibility of fines, application of these existing laws in a manner inconsistent with our data and privacy practices could result in an order requiring that we change our data and privacy practices, which could have an adverse effect on our business and results of operations. Complying with these various laws could cause us to incur substantial costs or require us to change our business practices in a manner adverse to our business. Also, any new law or regulation imposing greater fees or taxes or restriction on the collection, use or transfer of information or data internationally or over the Internet, could result in a decline in the use of our products and services and adversely affect sales and our results of operations. Finally, as we increasingly become a provider of technology solutions, our customers and regulators will expect that we can demonstrate compliance with current data privacy and security regulations as well as our privacy policies and data handling practices, and our inability to do so may adversely impact sales of our solutions and services to certain customers. This is particularly true for customers in highly-regulated industries, such as the healthcare industry and government contractors, and could result in regulatory actions, fines, legal proceedings and negatively impact our brand, reputation and our business.

GENERAL RISK FACTORS

Any business disruptions due to political instability, armed hostilities, incidents of terrorism, incidents of directed cyber-attacks, public health crisis, extreme weather events or other natural disasters could adversely impact our financial performance.

If terrorist activity, armed conflict, directed cyber-attacks, political instability, public health crisis, such as an epidemic or pandemic related to the COVID-19, or extreme weather events or other natural disasters occur in the U.S. or other locations, such events may negatively impact our operations, cause general economic conditions to deteriorate or cause demand for our products to decline. A prolonged economic slowdown or recession could reduce the demand for our products, and therefore, negatively affect our future sales and profits. Any of these events could have a significant impact on our business, financial condition or results of operations.

The potential insolvency or financial distress of third parties could adversely impact our business and results of operations.

We are exposed to the risk that third parties to various arrangements who owe us money or goods and services, or who purchase goods and services from us, will not be able to perform their obligations or continue to place orders due to insolvency or financial distress. In addition, the global COVID-19 pandemic has created heightened risk that third parties may be unable to perform their obligations or suffer financial distress due to the global economic impact of the pandemic and the regulatory measures that have been enacted by governments to contain the spread of the virus, however, we are unable to predict the impact that COVID-19 will have on any of our customers, suppliers, vendors, and other business partners, and each of their financial conditions or their ability to perform their obligations. If third parties fail to perform their obligations under arrangements with us, we may be forced to replace the underlying commitment at current or above market prices or on other terms that are less favorable to us. In such events, we may incur losses, or our results of operations, financial condition or liquidity could otherwise be adversely affected.

Changes to our executive leadership team and any future loss of members of such team, and the resulting management transitions, could harm our operating results.

We have experienced significant changes to our executive leadership team in the past and may do so in the future. Leadership transitions and changes can be inherently difficult to manage and may cause uncertainty or disruption to our business or may increase the likelihood of turnover in key leadership positions. If we cannot effectively manage leadership transitions and changes, it could make it more difficult to successfully operate our business.

Legal proceedings in which we are, or may be, a party may adversely affect us.

We are currently, and may in the future, become subject to legal proceedings and commercial or contractual disputes. These are typically claims that arise in the normal course of business including, without limitation, commercial or contractual disputes with our suppliers or customers, intellectual property matters, third party liability, including product liability claims, and employment claims. We are and may in the future become subject to litigation regarding data or privacy incidents, as more fully described above in ***“We rely on information and technology for many of our business operations which could fail and cause disruption to our business operations”***.

A downgrade in the ratings of our debt could restrict our ability to access the debt capital markets and increase our interest costs.

Unfavorable changes in the ratings that rating agencies assign to our debt may ultimately negatively impact our access to the debt capital markets and increase the costs we incur to borrow funds. If ratings for our debt fall below investment grade, our access to the debt capital markets may be impacted and the price we pay to issue debt could increase. Additionally, our credit agreement includes an increase in interest rates if the ratings for our debt are downgraded. Further, an increase in the level of our indebtedness may increase our vulnerability to adverse general economic and industry conditions and may affect our ability to obtain additional financing.

ITEM 1B | UNRESOLVED STAFF COMMENTS

None

ITEM 2 | PROPERTIES

Our corporate offices, consisting of 29,000 square feet of leased space, are located at 6901 Professional Parkway, Sarasota, Florida. As of December 31, 2021, we owned approximately 0.8 million square feet, and leased approximately 3.7 million square feet. Of the total 4.5 million square feet, 68% is concentrated in the United States. We consider our facilities to be in good operating condition and adequate for their present use and believe we have sufficient capacity to meet our anticipated operating requirements.

ITEM 3 | LEGAL PROCEEDINGS

Information pertaining to legal proceedings can be found in Note 13 to the Consolidated Financial Statements included in this Annual Report, and is incorporated by reference herein.

ITEM 4 | MINE SAFETY DISCLOSURES

Not Applicable

EXECUTIVE OFFICERS OF THE REGISTRANT

Pursuant to General Instruction G(3) of Form 10-K, the following list of executive officers of the Company as of February 22, 2022 is included as an unnumbered Item in Part I of this report in lieu of being included in the Company's Proxy Statement relating to the 2022 Annual Meeting of Shareholders.

L. Neil Hunn, 49, has served as President and Chief Executive Officer since August 2018. He previously served as Executive Vice President and Chief Operating Officer from 2017 to 2018. Mr. Hunn also served as Group Vice President of Roper's medical segment from 2011 to 2018 and helped drive significant growth in the Company's medical technology and application software businesses. In addition to his operating responsibilities at Roper, Mr. Hunn led the execution of the majority of the company's capital deployment since joining Roper. Prior to joining Roper, Mr. Hunn served 10 years as Executive Vice President and Chief Financial Officer at MedAssets, an Atlanta-based SaaS company, and as President of its revenue cycle technology businesses. He successfully led MedAssets' initial public offering and the execution of several M&A transactions. Mr. Hunn also held roles at CMGI, an incubator of Internet businesses, and Parthenon Group, a strategy consulting firm.

Robert C. Crisci, 46, has served as Executive Vice President and Chief Financial Officer since 2018 and as Vice President and Chief Financial Officer from 2017 to 2018. Mr. Crisci joined Roper in 2013 as Vice President, Finance and Investor Relations and led the Company's financial planning and analysis and investor relations activities. Prior to joining Roper, he served in various roles across investment banking, consulting and finance. His prior experience includes positions at Morgan Keegan, VRA Partners, Devon Value Advisers and Deloitte.

John K. Stipancich, 53, has served as Executive Vice President, General Counsel and Corporate Secretary since 2018 and as Vice President, General Counsel and Corporate Secretary from 2016 to 2018. Prior to joining Roper, Mr. Stipancich was with Newell Brands, Inc., a consumer products company, from 2004 to 2016. At Newell Brands he served as Executive Vice President and Chief Financial Officer from February 2015 to May 2016. Prior thereto, he served in a number of leadership roles at Newell Brands including General Counsel and Corporate Secretary, and Executive Leader of its operations in Europe, the Middle East and Africa. Prior to his twelve years at Newell Brands, Mr. Stipancich served as Executive Vice President, General Counsel and Corporate Secretary for Evenflo Company and Assistant General Counsel for Borden, both KKR portfolio companies at the time. He started his legal career in the Cleveland office of the international law firm of Squire Patton Boggs.

Jason P. Conley, 46, has served as Vice President and Chief Accounting Officer since 2021 and as Vice President and Controller from 2017 to 2021. Prior thereto, he served as the Chief Financial Officer at Managed Healthcare Associates, a Roper subsidiary, from 2013 to 2017. He also led the financial planning and investor relations activities for Roper from 2006 to 2013. Before Roper, Mr. Conley served in various finance and accounting leadership roles at Honeywell International and Deloitte.

PART II

ITEM 5 | MARKET FOR REGISTRANT'S COMMON EQUITY RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

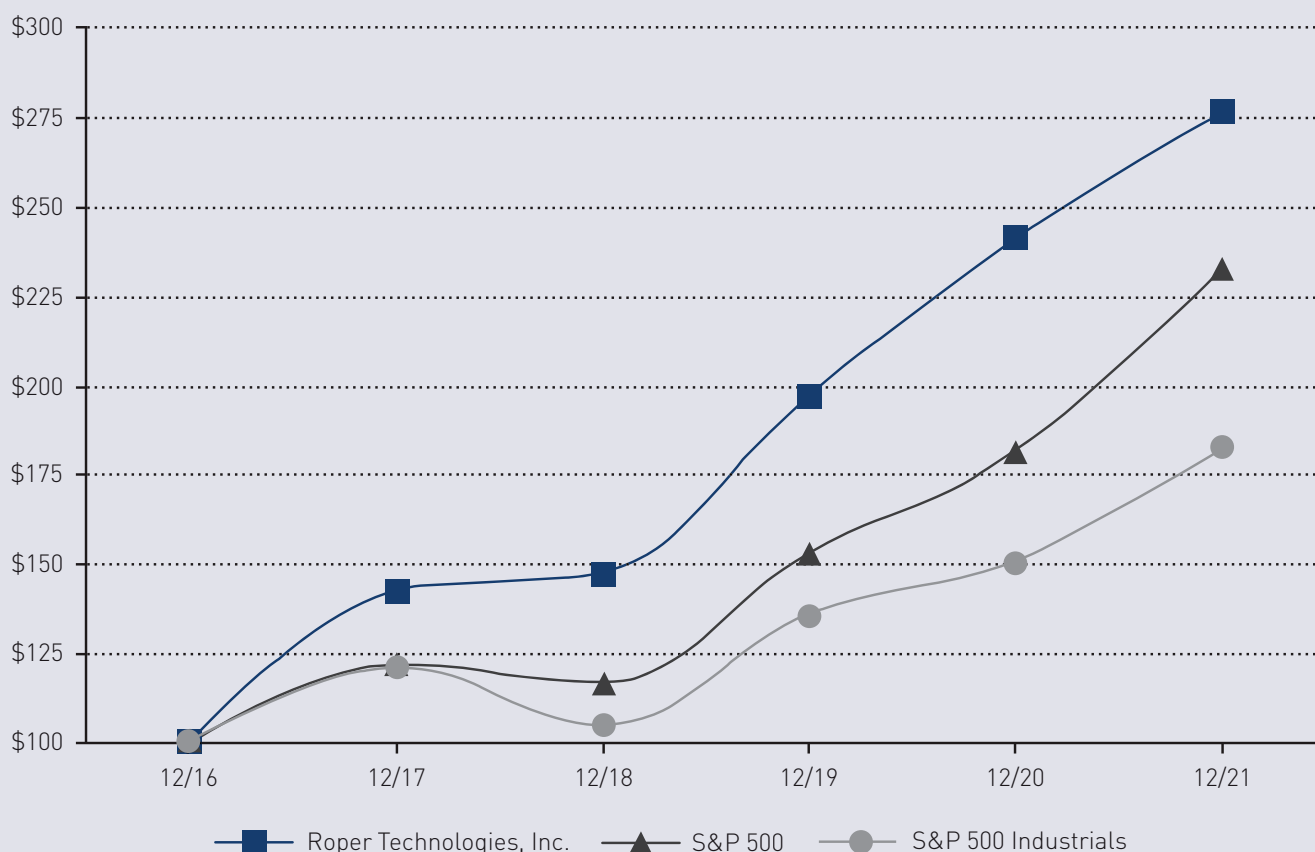
Our common stock trades on the NYSE under the symbol "ROP". Based on information available to us and our transfer agent, there were approximately 200 record holders of our common stock as of February 11, 2022.

Dividends—We have declared a cash dividend in each quarter since our February 1992 initial public offering and we have annually increased our dividend rate since our initial public offering. In November 2021, our Board of Directors increased the quarterly dividend paid January 24, 2022 to \$0.62 per share from \$0.5625 per share, an increase of 10%. This is the twenty-ninth consecutive year in which the Company has increased its dividend. The timing, declaration and payment of future dividends will be at the sole discretion of our Board of Directors and will depend upon our profitability, financial condition, capital needs, future prospects and other factors deemed relevant by our Board of Directors.

Performance Graph—This performance graph shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act") or otherwise subject to the liabilities under that Section and shall not be deemed to be incorporated by reference into any of our filings under the Securities Act of 1933, as amended, or under the Exchange Act.

The following graph compares, for the five year period ended December 31, 2021, the cumulative total stockholder return for our common stock, the Standard and Poor's 500 Stock Index (the "S&P 500") and the Standard and Poor's 500 Industrials Index (the "S&P 500 Industrials"). Measurement points are the last trading day of each of our fiscal years ended December 31, 2016, 2017, 2018, 2019, 2020 and 2021. The graph assumes that \$100 was invested on December 31, 2016 in our common stock, the S&P 500 and the S&P 500 Industrials and assumes reinvestment of any dividends. The stock price performance on the following graph is not necessarily indicative of future stock price performance.

	12/31/2016	12/31/2017	12/31/2018	12/31/2019	12/31/2020	12/31/2021
Roper Technologies, Inc.	\$ 100.00	\$ 142.38	\$ 147.39	\$ 197.01	\$ 241.12	\$ 276.51
S&P 500	100.00	121.83	116.49	153.17	181.35	233.41
S&P 500 Industrials	100.00	121.03	104.95	135.77	150.79	182.63



The information set forth in Item 12 under the heading "Securities Authorized for Issuance under Equity Compensation Plans" is incorporated herein by reference.

ITEM 6 | [RESERVED]

ITEM 7 | MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

ALL CURRENCY AMOUNTS ARE IN MILLIONS UNLESS SPECIFIED

OVERVIEW

We are a diversified technology company. We operate businesses that design and develop software (both license and SaaS) and engineered products and solutions for a variety of niche end markets.

We pursue consistent and sustainable growth in earnings and cash flow by emphasizing continuous improvement in the operating performance of our existing businesses and by acquiring other carefully selected businesses that offer high value-added software, services, engineered products and solutions that we believe are capable of achieving growth and maintaining high margins. We compete in many niche markets and believe we are the market leader or a competitive alternative to the market leader in most of these markets.

DISCONTINUED OPERATIONS

During 2021, Roper signed definitive agreements to divest its TransCore, Zetec and CIVCO Radiotherapy businesses. Roper has completed the divestitures of Zetec and CIVCO Radiotherapy, in the first quarter of 2022 and fourth quarter of 2021, respectively, and expects the TransCore transaction to close in the first quarter of 2022, subject to customary closing conditions, including regulatory approvals. The financial results for these businesses are reported as discontinued operations for all periods presented. Information regarding discontinued operations is included in Note 3 of the Notes to Consolidated Financial Statements.

APPLICATION OF CRITICAL ACCOUNTING POLICIES

Our Consolidated Financial Statements are prepared in conformity with generally accepted accounting principles in the United States ("GAAP"). A discussion of our significant accounting policies can also be found in the Notes to Consolidated Financial Statements for the year ended December 31, 2021 included in this Annual Report.

GAAP offers acceptable alternative methods for accounting for certain issues affecting our financial results, such as determining inventory cost, depreciating long-lived assets and recognizing revenue. We have not changed the application of acceptable accounting methods or the significant estimates affecting the application of these principles in the last three years in a manner that had a material effect on our Consolidated Financial Statements.

The preparation of financial statements in accordance with GAAP requires the use of estimates, assumptions, judgments and interpretations that can affect the reported amounts of assets, liabilities, revenues and expenses, the disclosure of contingent assets and liabilities and other supplemental disclosures.

The development of accounting estimates is the responsibility of our management. Our management discusses those areas that require significant judgments with the Audit Committee of our Board of Directors. The Audit Committee has reviewed all financial disclosures in our annual filings with the SEC. Although we believe the positions we have taken with regard to uncertainties are reasonable, others might reach different conclusions and our positions can change over time as more information becomes available. If an accounting estimate changes, its effects are accounted for prospectively or through a cumulative catch up adjustment.

Our most significant accounting uncertainties are encountered in the areas of revenue recognition, income taxes, valuation of other intangible assets and goodwill and indefinite-lived impairment analyses. Estimates are considered to be significant if they meet both of the following criteria: (1) the estimate requires assumptions about matters that are uncertain at the time the estimate is made, and (2) changes in the estimate are reasonably likely to have a material financial impact from period-to-period.

Income taxes can be affected by estimates of whether and within which jurisdictions future earnings will occur and if, how and when cash is repatriated to the U.S., combined with other aspects of an overall income tax strategy. Additionally, taxing jurisdictions could retroactively disagree with our tax treatment of certain items, and some historical transactions have income tax effects going forward. Accounting rules require these future effects to be evaluated using current laws, rules and regulations, each of which can change at any time and in an unpredictable manner. If there is a material change in the actual effective tax rates, the time period within which the underlying temporary differences become taxable or deductible, or if the tax law changes are unfavorable, then we could be required to recognize valuation allowances against deferred tax balances, resulting in an increase to income tax expense and the effective tax rate.

During 2021, our effective income tax rate was 22.7%, as compared to the 2020 rate of 21.5%. The increase was due primarily to a non-recurring item related to a UK tax rate change, which had a \$21.7 unfavorable impact in 2021. We expect the effective tax rate for 2022 to be approximately 21% to 22%.

We account for goodwill in a purchase business combination as the excess purchase price over the fair value of the net identifiable assets acquired. Goodwill, which is not amortized, is tested for impairment on an annual basis in conjunction with our annual forecast process during the fourth quarter (or an interim basis if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying value).

When testing goodwill for impairment, we have the option to first assess qualitative factors to determine whether the existence of events or circumstances leads to a determination that it is more likely than not that the estimated fair value of a reporting unit is less than its carrying amount. If we elect to perform a qualitative assessment and determine that an impairment is more likely than not, we are then required to perform the quantitative impairment test; otherwise, no further analysis is required. Under the qualitative assessment, we consider various qualitative factors, including macroeconomic conditions, relevant industry and market trends, cost factors, overall financial performance, other entity-specific events and events affecting the reporting unit that could indicate a potential change in the fair value of our reporting unit or the composition of its carrying values. We also consider the specific future outlook for the reporting unit.

We also may elect not to perform the qualitative assessment and, instead, proceed directly to the quantitative impairment test. The quantitative assessment utilizes an equal weighted income approach (discounted cash flows) and market approach (consisting of a comparable company earnings multiples methodology) to estimate the fair value of a reporting unit. To determine the reasonableness of the estimated fair values, we review the assumptions to ensure that neither the income approach nor the market approach provides significantly different valuations. If the estimated fair value exceeds the carrying value, no further work is required and no impairment loss is recognized. If the carrying value exceeds the estimated fair value, a non-cash impairment loss is recognized in the amount of that excess.

Key assumptions used in the income and market approaches are updated when the analysis is performed for each reporting unit. The assumptions that have the most significant effect on the fair value calculations are the projected revenue growth rates, future operating margins, discount rates, terminal values and earnings multiples. While we use reasonable and timely information to prepare our cash flow and discount rate assumptions, actual future cash flows or market conditions could differ significantly and could result in future non-cash impairment charges related to recorded goodwill balances.

Recently acquired reporting units generally represent a higher inherent risk of impairment, which typically decreases as the businesses are integrated into our enterprise. Negative industry or economic trends, disruptions to our business, actual results significantly below projections, unexpected significant changes or planned changes in the use of the assets, divestitures and market capitalization declines may have a negative effect on the fair value of our reporting units.

Roper has 34 reporting units with individual goodwill amounts ranging from zero to \$3,245.3. In 2021, the Company performed its annual impairment test in the fourth quarter for all reporting units. The Company conducted its analysis qualitatively and assessed whether it was more likely than not that the respective fair value of these reporting units was less than the carrying amount. The Company determined that impairment of goodwill was not likely in any of its reporting units and thus was not required to perform a quantitative assessment for these reporting units as of October 1, 2021.

Trade names that are determined to have an indefinite useful economic life are not amortized, but separately tested for impairment during the fourth quarter of the fiscal year or on an interim basis if an event occurs that indicates the fair value is more likely than not below the carrying value. We first qualitatively assess whether the existence of events or circumstances leads to a determination that it is more likely than not that the estimated fair value of the indefinite-lived trade name is less than its carrying amount. If necessary, we conduct a quantitative assessment using the relief-from-royalty method, which we believe to be an acceptable methodology due to its common use by valuation specialists in determining the fair value of intangible assets. This methodology assumes that, in lieu of ownership, a third-party would be willing to pay a royalty in order to exploit the related benefits of these assets. The assumptions that have the most significant effect on the fair value calculations are the royalty rates, projected revenue growth rates, discount rates and terminal values. Each royalty rate is determined based on the profitability of the trade name to which it relates and observed market royalty rates. Revenue growth rates are determined after considering current and future economic conditions, recent sales trends, discussions with customers, planned timing of new product launches or other variables. Trade names resulting from recent acquisitions generally represent the highest risk of impairment, which typically decreases as the businesses are integrated into our enterprise and positioned for future sales growth.

During the fourth quarter of 2021, the Company determined the use of the Sunquest trade name would be discontinued given the strategic action to merge the Sunquest business into our CliniSys business, both of which are reported in our Application Software reportable segment. Considering the planned merger and updated market comparisons, the royalty rate utilized in the quantitative impairment assessment of the trade name was 0.5% as compared to a royalty rate of 3.5% used in the prior year. The royalty rate reduction was the significant assumption that resulted in a non-cash impairment charge of \$94.4 recognized as a component of "Impairment of intangible assets" within the Consolidated Statements of Earnings.

The assessment of fair value for impairment purposes requires significant judgments to be made by management. Although our forecasts are based on assumptions that are considered reasonable by management and consistent with the plans and estimates management uses to operate the underlying businesses, there is significant judgment in determining the expected results attributable to the businesses and/or reporting units. Changes in estimates or the application of alternative assumptions could produce significantly different results.

The most significant identifiable intangible assets with definite useful economic lives recognized from our acquisitions are

customer relationships. The fair value for customer relationships is determined as of the acquisition date using the excess earnings method. Under this methodology the fair value is determined based on the estimated future after-tax cash flows arising from the acquired customer relationships over their estimated lives after considering customer attrition and contributory asset charges. The assumptions that have the most significant effect on the fair value calculations are the customer attrition rates, projected customer revenue growth rates, margins, contributory asset charges and discount rates. When testing customer relationship intangible assets for potential impairment, management considers historical customer attrition rates and projected revenues and profitability related to customers that existed at acquisition. In evaluating the amortizable life for customer relationship intangible assets, management considers historical customer attrition patterns.

We evaluate whether there has been an impairment of identifiable intangible assets with definite useful economic lives, or of the remaining life of such assets, when certain indicators of impairment are present. In the event that facts and circumstances indicate that the cost or remaining period of amortization of any asset may be impaired, an evaluation of recoverability would be performed. If an evaluation is required, the estimated future gross, undiscounted cash flows associated with the asset would be compared to the asset's carrying amount to determine if a write-down to fair value or a revision in the remaining amortization period is required.

During the fourth quarter of 2021, Sunquest also recognized a non-cash impairment charge of \$5.1 representing the unamortized balance related primarily to a software intangible asset that will be discontinued in 2022. This impairment charge is included as a component of "Impairment of intangible assets" within the Consolidated Statements of Earnings.

RESULTS OF OPERATIONS

All currency amounts are in millions unless specified, percentages are net of revenues

Percentages may not sum due to rounding.

The following table sets forth selected information for the years indicated.

	Years ended December 31,		
	2021	2020	2019
Net revenues:			
Application Software ⁽¹⁾	\$2,380.6	\$1,799.9	\$1,588.0
Network Software & Systems ⁽²⁾	1,338.4	1,173.7	1,004.2
Measurement & Analytical Solutions ⁽³⁾	1,559.6	1,425.6	1,544.3
Process Technologies	499.2	455.0	591.2
Total	\$5,777.8	\$4,854.2	\$4,727.7
Gross margin:			
Application Software	69.3%	68.3%	67.0%
Network Software & Systems	82.2	81.3	83.0
Measurement & Analytical Solutions	57.4	59.3	58.6
Process Technologies	54.4	53.4	57.1
Total	67.8%	67.4%	66.4%
Segment operating margin:			
Application Software	26.7%	26.0%	25.5%
Network Software & Systems	38.2	35.3	38.7
Measurement & Analytical Solutions	30.9	32.5	31.8
Process Technologies	30.6	25.4	35.8
Total	30.9%	30.1%	31.7%
Corporate administrative expenses	(3.5)%	(3.9)%	(3.6)%
Loss from impairment	(1.7)	—	—
Income from operations	25.6	26.2	28.1
Interest expense, net	(4.1)	(4.5)	(3.9)
Other income (expense), net	0.4	(0.1)	(0.1)
Gain on disposal of businesses	—	—	19.5
Earnings before income taxes	22.0	21.7	43.5
Income taxes	(5.0)	(4.7)	(8.8)
Net earnings from continuing operations	17.0%	17.0%	34.7%

(1) Includes results from the acquisitions of ComputerEase from August 19, 2019, Bellefield from December 18, 2019, Vertafore from September 3, 2020, EPSi from October 15, 2020 and American Legal Net from December 30, 2021.

(2) Includes results from the acquisitions of Foundry from April 18, 2019, iPipeline from August 22, 2019, FMIC from June 9, 2020, Team TSI from June 15, 2020, IFS from September 15, 2020, WELIS from September 18, 2020 and Construction Journal from December 21, 2021.

(3) Includes the results from the Imaging businesses through February 5, 2019 and Gatan through October 29, 2019.

YEAR ENDED DECEMBER 31, 2021 COMPARED TO YEAR ENDED DECEMBER 31, 2020

Net revenues for the year ended December 31, 2021 were \$5,777.8 as compared to \$4,854.2 for the year ended December 31, 2020, an increase of 19.0%. The components of revenue growth for the year ended December 31, 2021 were as follows:

	Application Software	Network Software & Systems	Measurement & Analytical Solutions	Process Technologies	Roper
Total Revenue Growth	32.3%	14.0%	9.4%	9.7%	19.0%
Less Impact of:					
Acquisitions/Divestitures	23.1	1.9	—	—	9.0
Foreign Exchange	1.0	0.9	1.2	1.4	1.1
Organic Revenue Growth	8.2%	11.2%	8.2%	8.3%	8.9%

In our Application Software segment, net revenues for the year ended December 31, 2021 were \$2,380.6 as compared to \$1,799.9 for the year ended December 31, 2020. The growth of 8.2% in organic revenues was broad-based across the segment led by our businesses serving the government contracting, healthcare and legal markets. Gross margin increased to 69.3% for the year ended December 31, 2021 as compared to 68.3% for the year ended December 31, 2020 due primarily to the acquisition of Vertafore and operating leverage on higher organic revenues. Selling, general and administrative ("SG&A") expenses as a percentage of revenues in the year ended December 31, 2021 increased to 42.6%, as compared to 42.2% in the year ended December 31, 2020, due primarily to higher amortization of acquired intangibles from the Vertafore and EPSi acquisitions, partially offset by operating leverage on higher organic revenues. The resulting operating margin was 26.7% in the year ended December 31, 2021 as compared to 26.0% in the year ended December 31, 2020.

In our Network Software & Systems segment, net revenues were \$1,338.4 for the year ended December 31, 2021 as compared to \$1,173.7 for the year ended December 31, 2020. The growth of 11.2% in organic revenues was broad-based across the segment led by our network software businesses serving the spot freight, post-acute care and construction markets. Gross margin increased to 82.2% for the year ended December 31, 2021 from 81.3% for the year ended December 31, 2020, due primarily to revenue mix. SG&A expenses as a percentage of net revenues decreased to 43.9% in the year ended December 31, 2021, as compared to 46.0% in the year ended December 31, 2020, due primarily to operating leverage on higher organic sales. The resulting operating margin was 38.2% in the year ended December 31, 2021 as compared to 35.3% in the year ended December 31, 2020.

In our Measurement & Analytical Solutions segment, net revenues were \$1,559.6 for the year ended December 31, 2021 as compared to \$1,425.6 the year ended December 31, 2020. The growth of 8.2% in organic revenues was broad-based led by our industrial, water meter technology, and medical products businesses excluding Verathon, which declined due to unprecedented demand for their products used in the treatment of COVID-19 during 2020. Gross margin decreased to 57.4% in the year ended December 31, 2021, as compared to 59.3% in the year ended December 31, 2020, due primarily to revenue mix, reduced operating leverage associated with Verathon's normalized 2021 revenues and costs associated with navigating the widespread supply chain challenges. SG&A expenses as a percentage of net revenues decreased to 26.5% in the year ended December 31, 2021, as compared to 26.8% in the year ended December 31, 2020 due to revenue mix. The resulting operating margin was 30.9% in the year ended December 31, 2021 as compared to 32.5% in the year ended December 31, 2020.

In our Process Technologies segment, net revenues were \$499.2 for the year ended December 31, 2021 as compared to \$455.0 for the year ended December 31, 2020. The growth of 8.3% in organic revenues was due to broad-based across the segment as energy and industrial markets continue to recover from the reduction in demand caused by the pandemic. Gross margin increased to 54.4% in the year ended December 31, 2021 as compared to 53.4% in the year ended December 31, 2020, due primarily to increased operating leverage on higher organic revenues partially offset by costs associated with navigating the widespread supply chain challenges. SG&A expenses as a percentage of net revenues decreased to 23.7% in the year ended December 31, 2021, as compared to 28.0% in the year ended December 31, 2020, due primarily to \$13.6 of restructuring charges for structural cost reduction actions taken at certain of our businesses during the second quarter of 2020 and operating leverage on higher organic revenues. As a result, operating margin was 30.6% in the year ended December 31, 2021 as compared to 25.4% in the year ended December 31, 2020.

Corporate expenses increased by \$15.6 to \$203.3, or 3.5% of revenues, in 2021 as compared to \$187.7, or 3.9% of revenues, in 2020. The dollar increase was due primarily to higher compensation related expenses, partially offset by lower acquisition related expenses.

Impairment of intangible assets was \$99.5 for the year ended December 31, 2021, due to the strategic action to merge the Sunquest business into our CliniSys business resulting in impairment of a trade name and other amortizable intangible assets.

Interest expense, net, increased \$15.6, or 7.1%, for the year ended December 31, 2021 as compared to the year ended December 31, 2020. The increase was due to higher weighted average debt balances, partially offset by lower weighted average interest rates and \$7.2 in interest expense for the origination fee on our bridge financing associated with the Vertafore acquisition in 2020.

Other income, net, of \$24.9 for the year ended December 31, 2021 was composed primarily of a gain on sale of minority investment of \$27.1. Other expense, net of \$3.6 for the year ended December 31, 2020, was composed primarily of foreign exchange losses at our non-U.S. based subsidiaries.

During 2021, our effective income tax rate was 22.7% as compared to our 2020 rate of 21.5%. The increase was due primarily to a non-recurring item related to a UK tax rate change, which had a \$21.7 unfavorable impact in 2021.

Order backlog is equal to our remaining performance obligations expected to be recognized within the next 12 months as discussed in Note 1 of the Notes to Consolidated Financial Statements. Backlog increased 24.2% to \$2,560.8 at December 31, 2021 as compared to \$2,061.8 at December 31, 2020, with the increase driven primarily by organic growth.

	2021	2020	Change
Application Software	\$1,541.9	\$1,366.9	12.8%
Network Software & Systems	468.1	363.5	28.8
Measurement & Analytical Solutions	400.6	224.0	78.8
Process Technologies	150.2	107.4	39.9
Total	\$2,560.8	\$2,061.8	24.2%

YEAR ENDED DECEMBER 31, 2020 COMPARED TO YEAR ENDED DECEMBER 31, 2019

Net revenues for the year ended December 31, 2020 were \$4,854.2 as compared to \$4,727.7 for the year ended December 31, 2019, an increase of 2.7%. The components of revenue growth for the year ended December 31, 2020 were as follows:

	Application Software	Network Software & Systems	Measurement & Analytical Solutions	Process Technologies	Roper
Total Revenue Growth	13.3%	16.9%	(7.7)%	(23.1)%	2.7%
Less Impact of:					
Acquisitions/Divestitures	12.6	15.2	(9.9)	—	4.4
Foreign Exchange	0.1	0.1	0.2	—	0.1
Organic Revenue Growth	0.6%	1.6%	2.0%	(23.1)%	(1.8)%

In our Application Software segment, net revenues for the year ended December 31, 2020 were \$1,799.9 as compared to \$1,588.0 for the year ended December 31, 2019. The growth of 0.6% in organic revenues was primarily due to businesses serving healthcare and government contracting markets. Gross margin increased to 68.3% for the year ended December 31, 2020 as compared to 67.0% for the year ended December 31, 2019 due primarily to operating leverage on higher organic revenues and revenue mix. SG&A expenses as a percentage of revenues in the year ended December 31, 2020 increased to 42.2%, as compared to 41.5% in the year ended December 31, 2019, due primarily to higher amortization of acquired intangibles from the acquisitions completed in 2020. The resulting operating margin was 26.0% in the year ended December 31, 2020 as compared to 25.5% in the year ended December 31, 2019.

In our Network Software & Systems segment, net revenues were \$1,173.7 for the year ended December 31, 2020 as compared to \$1,004.2 for the year ended December 31, 2019. The growth of 1.6% in organic revenues was due to subscription growth at our SaaS businesses led by our business serving the spot freight market in the United States. Gross margin decreased to 81.3% for the year ended December 31, 2020 from 83.0% for the year ended December 31, 2019, due to revenue mix. SG&A expenses as a percentage of net revenues increased to 46.0% in the year ended December 31, 2020, as compared to 44.2% in the year ended December 31, 2019, due primarily to higher amortization of acquired intangibles from the acquisitions completed in 2019. The resulting operating margin was 35.3% in the year ended December 31, 2020 as compared to 38.7% in the year ended December 31, 2019.

In our Measurement & Analytical Solutions segment, net revenues were \$1,425.6 for the year ended December 31, 2020 as compared to \$1,544.3 the year ended December 31, 2019. The growth of 2.0% in organic revenues was due to accelerated adoption of Verathon's video-assisted intubation products that aid in reducing COVID transmission to healthcare workers, partially offset by declines in our water meter technology business, due to restricted access to indoor meters located in the Northeast United States and Canada, and industrial business declines. Gross margin increased to 59.3% in the year ended December 31, 2020, as compared to 58.6% in the year ended December 31, 2019, due primarily to revenue mix. SG&A expenses as a percentage of net revenues remained flat at 26.8% in both the years ended December 31, 2020 and December 31, 2019. The resulting operating margin was 32.5% in the year ended December 31, 2020 as compared to 31.8% in the year ended December 31, 2019.

In our Process Technologies segment, net revenues were \$455.0 for the year ended December 31, 2020 as compared to \$591.2 for the year ended December 31, 2019. The decrease of 23.1% in organic revenues was due to broad-based revenue declines across the segment led by lower demand at our businesses serving upstream oil and gas end markets resulting from lower energy prices and the COVID-19 pandemic. Gross margin decreased to 53.4% in the year ended December 31, 2020 as compared to 57.1% in the year ended December 31, 2019, due primarily to lower revenues. SG&A expenses as a percentage of net revenues increased to 28.0% in the year ended December 31, 2020, as compared to 21.3% in the year ended December 31, 2019,

due primarily to \$13.6 of restructuring charges for structural cost reduction actions taken at certain of our businesses and lower operating leverage on organic revenue declines. As a result, operating margin was 25.4% in the year ended December 31, 2020 as compared to 35.8% in the year ended December 31, 2019.

Corporate expenses increased by \$18.7 to \$187.7, or 3.9% of revenues, in 2020 as compared to \$169.0, or 3.6% of revenues, in 2019. The dollar increase was due primarily to higher stock compensation expense and professional services.

Interest expense, net, increased \$32.3, or 17.3%, for the year ended December 31, 2020 as compared to the year ended December 31, 2019. The increase was due to (i) higher weighted average debt balances, partially offset by lower weighted average interest rates, and (ii) \$7.2 in interest expense for the origination fee on our bridge financing associated with the Vertafore acquisition in 2020.

Other expense, net, of \$3.6 and \$5.4 for the year ended December 31, 2020 and December 31, 2019, respectively, was composed primarily of foreign exchange losses at our non-U.S. based subsidiaries.

Gain on disposal of businesses, resulted in a pretax gain of \$920.7 for the year ended December 31, 2019. The Company recognized \$119.6 on the sale of the Imaging businesses, which closed February 5, 2019, and \$801.1 on the sale of Gatan, which closed October 29, 2019.

During 2020, our effective income tax rate was 21.5% as compared to our 2019 rate of 20.3%. The increase was due primarily to the following non-recurring items in 2019, (i) recognition of a discrete tax benefit of \$41.0 in connection with a foreign restructuring plan allowing the future realization of net operating losses, and (ii) the reversal of the deferred tax liability associated with the excess of Gatan's book basis over tax basis in the shares of \$10.0 in the third quarter of 2019, partially offset by the higher income tax rate incurred on the Imaging and Gatan gains during 2019.

Order backlog is equal to our remaining performance obligations expected to be recognized within the next 12 months as discussed in Note 1 of the Notes to Consolidated Financial Statements. Backlog increased 40.3% to \$2,061.8 at December 31, 2020 as compared to \$1,469.7 at December 31, 2019, acquisitions contributed approximately 33% and organic growth was 7%.

	2020	2019	Change
Application Software	\$1,366.9	\$ 834.6	63.8%
Network Software & Systems	363.5	346.7	4.8%
Measurement & Analytical Solutions	224.0	184.9	21.1%
Process Technologies	107.4	103.5	3.8%
Total	\$2,061.8	\$1,469.7	40.3%

FINANCIAL CONDITION, LIQUIDITY AND CAPITAL RESOURCES

All currency amounts are in millions unless specified

Selected cash flows for the years ended December 31, 2021 and 2020 are as follows. A detailed discussion of fiscal 2020 year-over-year changes can be found in Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our Annual Report on Form 10-K for the fiscal year ended December 31, 2020.

	2021	2020
Cash provided by/(used in):		
Operating activities	\$ 2,011.9	\$ 1,525.1
Investing activities	(142.9)	(6,073.9)
Financing activities	(1,813.5)	4,136.9

Operating activities—The growth in cash provided by operating activities in 2021 as compared to 2020 was primarily due to higher net income net of non-cash expenses and the non-recurrence of \$201.9 of cash taxes paid on the disposal of Gatan in 2020. These increases were partially offset by lower cash provided by working capital as compared to the prior year.

Investing activities—Cash used in investing activities during 2021 was primarily for business acquisitions partially offset by proceeds from the sale of CIVCO Radiotherapy. Cash used in investing activities during 2020 was primarily for business acquisitions, most notably Vertafore and EPSi.

Financing activities—Cash used in financing activities during 2021 was primarily due to net repayments of \$1,150.0 on our unsecured credit facility, \$500.0 of repayments for our senior notes and dividend payments. Cash provided by financing activities during 2020 was primarily from the issuance of \$3,300.0 of senior notes and \$1,620.0 of net borrowings on the revolver, partially offset by \$600.0 of repayments for senior notes and to a lesser extent dividend payments.

Net working capital (total current assets, excluding cash and current assets held for sale, less total current liabilities, excluding debt and current liabilities held for sale) was negative \$882.5 at December 31, 2021 compared to negative \$704.4 at December 31, 2020, due primarily to increased balances of deferred revenue and income taxes payable partially offset by increased accounts receivable. Consistent negative net working capital demonstrates Roper's focus on asset-light business models.

Total debt excluding unamortized debt issuance costs was \$7,970.3 at December 31, 2021 (40.8% of total capital) compared to \$9,620.5 at December 31, 2020 (47.9% of total capital). Our total debt decreased at December 31, 2021 compared to December 31, 2020, due primarily to \$1,150.0 of revolving debt repayments and the redemption of \$500.0 of outstanding 2.80% senior unsecured notes.

On September 2, 2020, the Company entered into a three-year unsecured credit facility with JPMorgan Chase Bank, N.A., as administrative agent, Wells Fargo Bank, N.A. and Bank of America, N.A., as syndication agents, and MUFG Bank, Ltd., Mizuho Bank, Ltd., PNC Bank, National Association, Truist Bank and TD Bank, N.A., as co-documentation agents, which replaced its previous \$2,500.0 unsecured credit facility, dated as of September 23, 2016, as amended. The facility comprises a three-year \$3,000.0 revolving credit facility, which includes availability of up to \$150.0 for letters of credit. The Company may also, subject to compliance with specified conditions, request additional term loans or revolving credit commitments in an aggregate amount not to exceed \$500.0.

The Credit Agreement requires the Company to maintain a Total Debt to Total Capital Ratio (as defined in the Credit Agreement) of 0.65 to 1.00 or less. Borrowings under the Credit Agreement are prepayable at Roper's option at any time in whole or in part without premium or penalty.

We were in compliance with all debt covenants related to our credit facility throughout the years ended December 31, 2021 and 2020.

At December 31, 2021, we had \$7,500.0 of senior unsecured notes and \$470.0 of outstanding revolver borrowings. We had \$84.9 of outstanding letters of credit at December 31, 2021, of which \$28.2 was covered by our lending group, thereby reducing our revolving credit capacity commensurately.

We may redeem some or all of our senior unsecured notes at any time or from time to time, at 100% of their principal amount, plus a make-whole premium based on a spread to U.S. Treasury securities.

See Note 9 of the Notes to Consolidated Financial Statements included in this Annual Report for additional information regarding our credit facility and senior notes.

Cash and cash equivalents at our foreign subsidiaries at December 31, 2021 totaled \$310.8 as compared to \$259.1 at December 31, 2020, an increase of 20.0%. The increase was due primarily due to cash generated from foreign operations, partially offset by the repatriation of \$329.3 during the year. We intend to repatriate substantially all historical and future earnings.

Capital expenditures of \$32.9, \$28.3 and \$43.0 were incurred during 2021, 2020 and 2019, respectively. Capitalized software expenditures of \$29.7, \$17.7 and \$10.2 were incurred during 2021, 2020 and 2019, respectively. Capital expenditures and capitalized software expenditures were relatively consistent in 2021 as compared to 2020 and 2019. In the future, we expect the aggregate of capital expenditures and capitalized software expenditures as a percentage of annual net revenues to be between 1.0% and 1.5%.

CONTRACTUAL CASH OBLIGATIONS AND OTHER COMMERCIAL COMMITMENTS AND CONTINGENCIES

All currency amounts are in millions

The following tables quantify our contractual cash obligations and commercial commitments at December 31, 2021.

Contractual Cash Obligations ⁽¹⁾	Total	Payments Due in Fiscal Year					
		2022	2023	2024	2025	2026	Thereafter
Total debt	\$7,970.3	\$ 800.2	\$1,170.1	\$500.0	\$1,000.0	\$700.0	\$3,800.0
Senior note interest	1,044.1	193.0	176.0	150.5	138.7	120.2	265.7
Purchase obligations ⁽²⁾	794.2	467.4	100.4	75.9	64.2	70.6	15.7
Total	\$9,808.6	\$1,460.6	\$1,446.5	\$726.4	\$1,202.9	\$890.8	\$4,081.4

(1) We have excluded the liability for uncertain tax positions and certain other tax liabilities as we are not able to reasonably estimate the timing of the payments. See Note 7 of the Notes to Consolidated Financial Statements included in this Annual Report.

(2) Represents minimum fixed price purchase commitments that are legally binding across Roper.

Other Commercial Commitments	Total Amount Committed	Amounts Expiring in Fiscal Year					
		2022	2023	2024	2025	2026	Thereafter
Standby letters of credit and bank guarantees	\$ 84.9	\$ 65.5	\$ 8.8	\$ 9.7	\$ 0.2	\$ 0.1	\$ 0.6

As of December 31, 2021, we had \$659.7 of outstanding surety bonds of which \$634.2 are directly associated with our Transcore business. Certain contracts, primarily those involving public sector customers, require us to provide a surety bond as a guarantee of our performance of contractual obligations.

We believe that internally generated cash flows and the remaining availability under our credit facility will be adequate to finance normal operating requirements. Although we maintain an active acquisition program, any future acquisitions will be dependent on numerous factors and it is not feasible to reasonably estimate if or when any such acquisitions will occur and what the impact will be on our business, financial condition and results of operations. Such acquisitions may be financed by the use of existing credit lines, future cash flows from operations, future divestitures, the proceeds from the issuance of new debt or equity securities or any combination of these methods, the terms and availability of which will be subject to market and economic conditions generally.

We anticipate that our businesses will generate positive cash flows from operating activities, and that these cash flows will permit the reduction of currently outstanding debt in accordance with the repayment schedule. However, the rate at which we can reduce our debt during 2022 (and reduce the associated interest expense) will be affected by, among other things, the financing and operating requirements of any new acquisitions, the financial performance of our existing companies and the financial markets generally. None of these factors can be predicted with certainty.

RECENTLY ISSUED ACCOUNTING STANDARDS

See Note 1 of the Notes to Consolidated Financial Statements included in this Annual Report for information regarding the effect of new accounting pronouncements on our Consolidated Financial Statements.

ITEM 7A | QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to interest rate risks on our outstanding revolving credit borrowings, and to foreign currency exchange risks on our transactions denominated in currencies other than the U.S. dollar. We are also exposed to equity market risks pertaining to the traded price of our common stock.

At December 31, 2021, we had \$7,500.0 of fixed rate borrowings with interest rates ranging from 0.45% to 4.20%. At December 31, 2021, the prevailing market rates for our long-term notes were between 2.6% lower and 0.7% higher than the fixed rates on our debt instruments. Our credit facility contains a \$3,000.0 variable-rate revolver with \$470.0 of outstanding borrowings at December 31, 2021.

Several of our businesses have transactions and balances denominated in currencies other than the U.S. dollar. Most of these transactions or balances are denominated in euros, Canadian dollars, British pounds or Danish kroner. Net revenues recognized by companies whose functional currency was not the U.S. dollar were 17% of our total revenues in 2021 and 77% of these revenues were recognized by companies with a European functional currency. If these currency exchange rates had been 10% different throughout 2021 compared to currency exchange rates actually experienced, the impact on our net earnings would have been approximately 1%.

The trading price of our common stock influences the valuation of stock award grants and the effects these grants have on our results of operations. The stock price also influences the computation of potentially dilutive common stock to determine diluted earnings per share. The stock price also affects our employees' perceptions of programs that involve our common stock. We believe the quantification of the effects of these changing prices on our future earnings and cash flows is not readily determinable.

ITEM 8 | FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of Roper Technologies, Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Roper Technologies, Inc. and its subsidiaries (the "Company") as of December 31, 2021 and 2020, and the related consolidated statements of earnings, of comprehensive income, of stockholders' equity, and of cash flows for each of the three years in the period ended December 31, 2021 including the related notes and financial statement schedule listed in the accompanying index (collectively referred to as the "consolidated 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 consolidated 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 the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated 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 Management's Report on Internal Control over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company's consolidated financial statements and 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 consolidated 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 consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. 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.

As described in Management's Report on Internal Control over Financial Reporting, management has excluded the seven acquisitions completed in 2021 from its assessment of internal control over financial reporting as of December 31, 2021 because they were acquired by the Company in purchase business combinations during 2021. We have also excluded the seven acquisitions completed in 2021 from our audit of internal control over financial reporting. The acquired entities are wholly-owned subsidiaries whose total assets and total revenues excluded from management's assessment and our audit of internal control over financial reporting collectively represent less than 1% and less than 1%, respectively, of the related consolidated financial statement amounts as of and for the year ended December 31, 2021.

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 (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) 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 (iii) 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 Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated 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.

Indefinite-Lived Trade Name Intangible Asset Quantitative Impairment Assessment – Sunquest

As described in Notes 1 and 6 to the consolidated financial statements, the Company's consolidated indefinite-lived intangible assets balance was \$648.6 million as of December 31, 2021, which was comprised entirely of trade names. Trade names that are determined to have indefinite useful economic lives are not amortized, but separately tested for impairment during the fourth quarter of the fiscal year or on an interim basis if an event occurs that indicates the fair value is more likely than not below the carrying value. Management first qualitatively assesses whether the existence of events or circumstances leads to a determination that it is more likely than not that the estimated fair value of an indefinite-lived trade name is less than its carrying amount. If necessary, management conducts a quantitative review using the relief-from-royalty method. The assumptions that have the most significant effect on the fair value calculations are the royalty rates, projected revenue growth rates, discount rates, and terminal values. Each royalty rate is determined based on the profitability of the trade name to which it relates and observed market royalty rates. During the fourth quarter of 2021, management determined the use of the Sunquest trade name would be discontinued and performed a quantitative impairment assessment and recognized a non-cash impairment charge of \$94.4 million.

The principal considerations for our determination that performing procedures relating to the Sunquest indefinite-lived trade name intangible asset quantitative impairment assessment is a critical audit matter are (i) the significant judgment by management when determining the fair value of the indefinite-lived trade name intangible asset; (ii) a high degree of auditor judgment, subjectivity and effort in performing procedures and evaluating management's significant assumptions related to the royalty rate, discount rate, and terminal value; and (iii) the audit effort involved the use of professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to management's Sunquest indefinite-lived trade name intangible asset quantitative impairment assessment, including controls over the valuation of Sunquest's indefinite-lived trade name intangible asset. These procedures also included, among others (i) testing management's process for determining the fair value; (ii) evaluating the appropriateness of the relief-from-royalty method; (iii) testing the completeness and accuracy of the underlying data used in the method; and (iv) evaluating the reasonableness of the significant assumptions used by management related to the royalty rate, discount rate, and terminal value. Evaluating management's significant assumption related to the terminal value involved evaluating whether the significant assumption used by management was reasonable considering (i) the current and past performance of the asset group comprised of Sunquest's indefinite-lived trade name intangible asset; (ii) the consistency with external market and industry data; and (iii) whether the assumption was consistent with evidence obtained in other areas of the audit. Professionals with specialized skill and knowledge were used to assist in evaluating (i) the appropriateness of the relief-from-royalty method and (ii) the reasonableness of the royalty rate and the discount rate significant assumptions.

/s/ PricewaterhouseCoopers LLP
Tampa, Florida
February 22, 2022

We have served as the Company's auditor since 2002.

ROPER TECHNOLOGIES, INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

(in millions, except per share data)

	As of December 31,	
	2021	2020
Assets		
Cash and cash equivalents	\$ 351.5	\$ 308.3
Accounts receivable, net	839.4	745.7
Inventories, net	176.1	165.1
Income taxes receivable	27.7	21.9
Unbilled receivables	95.3	72.8
Other current assets	142.5	114.3
Current assets held for sale	788.6	324.2
Total current assets	2,421.1	1,752.3
Property, plant and equipment, net	102.8	127.3
Goodwill	14,094.5	13,966.0
Other intangible assets, net	6,588.5	7,168.2
Deferred taxes	101.1	103.2
Other assets	405.9	386.2
Assets held for sale	—	521.6
Total assets	\$23,713.9	\$24,024.8
Liabilities and Stockholders' Equity		
Accounts payable	\$ 150.8	\$ 127.1
Accrued compensation	309.8	262.6
Deferred revenue	1,130.2	990.2
Other accrued liabilities	440.7	418.6
Income taxes payable	132.0	25.7
Current portion of long-term debt, net	799.2	499.4
Current liabilities held for sale	159.1	120.8
Total current liabilities	3,121.8	2,444.4
Long-term debt, net of current portion	7,122.6	9,061.4
Deferred taxes	1,479.5	1,531.5
Other liabilities	426.2	443.6
Liabilities held for sale	—	64.1
Total liabilities	12,150.1	13,545.0
Commitments and contingencies (Note 13)		
Stockholders' equity:		
Preferred stock, \$0.01 par value per share; 1.0 shares authorized; none outstanding	—	—
Common stock, \$0.01 par value per share; 350.0 shares authorized; 107.3 shares issued and 105.5 outstanding at December 31, 2021 and 106.7 shares issued and 104.9 outstanding at December 31, 2020	1.1	1.1
Additional paid-in capital	2,307.8	2,097.5
Retained earnings	9,455.6	8,546.2
Accumulated other comprehensive loss	(183.1)	(147.0)
Treasury stock, 1.8 shares at December 31, 2021 and 1.8 shares at December 31, 2020	(17.6)	(18.0)
Total stockholders' equity	11,563.8	10,479.8
Total liabilities and stockholders' equity	\$23,713.9	\$24,024.8

See accompanying notes to Consolidated Financial Statements.

ROPER TECHNOLOGIES, INC. AND SUBSIDIARIES CONSOLIDATED STATEMENTS OF EARNINGS

(Dollar and share amounts in millions, except per share data)

	Year ended December 31,		
	2021	2020	2019
Net revenues	\$5,777.8	\$4,854.2	\$4,727.7
Cost of sales	1,860.4	1,583.4	1,587.6
Gross profit	3,917.4	3,270.8	3,140.1
Selling, general and administrative expenses	2,337.7	1,997.3	1,811.8
Impairment of intangible assets	99.5	—	—
Income from operations	1,480.2	1,273.5	1,328.3
Interest expense, net	234.1	218.5	186.2
Other income (expense), net	24.9	(3.6)	(5.4)
Gain on disposal of businesses	—	—	920.7
Earnings before income taxes	1,271.0	1,051.4	2,057.4
Income taxes	288.4	225.9	417.4
Net earnings from continuing operations	982.6	825.5	1,640.0
Earnings from discontinued operations, net of tax	114.1	124.2	127.9
Gain on disposition of discontinued operations, net of tax	55.9	—	—
Net earnings from discontinued operations	170.0	124.2	127.9
Net earnings	\$1,152.6	\$ 949.7	\$1,767.9
Net earnings per share from continuing operations:			
Basic	\$ 9.33	\$ 7.89	\$ 15.79
Diluted	\$ 9.23	\$ 7.81	\$ 15.60
Net earnings per share from discontinued operations:			
Basic	\$ 1.62	\$ 1.19	\$ 1.23
Diluted	\$ 1.59	\$ 1.17	\$ 1.22
Net earnings per share:			
Basic	\$ 10.95	\$ 9.08	\$ 17.02
Diluted	\$ 10.82	\$ 8.98	\$ 16.82
Weighted-average common shares outstanding:			
Basic	105.3	104.6	103.9
Diluted	106.5	105.7	105.1

See accompanying notes to Consolidated Financial Statements.

ROPER TECHNOLOGIES, INC. AND SUBSIDIARIES CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(in millions)

	Years ended December 31,		
	2021	2020	2019
Net earnings	\$1,152.6	\$ 949.7	\$1,767.9
Other comprehensive income (loss), net of tax:			
Foreign currency translation adjustments	(36.1)	65.8	30.5
Total other comprehensive income (loss), net of tax	(36.1)	65.8	30.5
Comprehensive income	\$1,116.5	\$ 1,015.5	\$ 1,798.4

See accompanying notes to Consolidated Financial Statements.

ROPER TECHNOLOGIES, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

(in millions, except per share data)

	Common Stock		Additional paid-in capital	Retained earnings	Accumulated other comprehensive loss	Treasury stock	Total stockholders' equity
	Shares	Amount					
Balances at December 31, 2018	103.4	\$1.1	\$ 1,751.5	\$ 6,247.7	\$(243.3)	\$(18.5)	\$ 7,738.5
Net earnings	—	—	—	1,767.9	—	—	1,767.9
Stock option exercises	0.5	—	64.9	—	—	—	64.9
Treasury stock sold	—	—	6.6	—	—	0.2	6.8
Currency translation adjustments, including tax benefit of \$3.8	—	—	—	—	30.5	—	30.5
Stock based compensation	—	—	110.9	—	—	—	110.9
Restricted stock activity	0.2	—	(30.0)	—	—	—	(30.0)
Dividends declared (\$1.90 per share)	—	—	—	(197.6)	—	—	(197.6)
Balances at December 31, 2019	104.1	\$1.1	\$ 1,903.9	\$ 7,818.0	\$(212.8)	\$(18.3)	\$ 9,491.9
Adoption of ASC 326	—	—	—	(1.7)	—	—	(1.7)
Net earnings	—	—	—	949.7	—	—	949.7
Stock option exercises	0.7	—	105.5	—	—	—	105.5
Treasury stock sold	—	—	10.2	—	—	0.3	10.5
Currency translation adjustments, including tax provision of \$14.6	—	—	—	—	65.8	—	65.8
Stock based compensation	—	—	119.0	—	—	—	119.0
Restricted stock activity	0.1	—	(41.1)	—	—	—	(41.1)
Dividends declared (\$2.10 per share)	—	—	—	(219.8)	—	—	(219.8)
Balances at December 31, 2020	104.9	\$1.1	\$ 2,097.5	\$ 8,546.2	\$(147.0)	\$(18.0)	\$ 10,479.8
Net earnings	—	—	—	1,152.6	—	—	1,152.6
Stock option exercises	0.5	—	104.7	—	—	—	104.7
Cash settlement of share-based awards in connection with disposition of discontinued operations	—	—	(6.7)	—	—	—	(6.7)
Treasury stock sold	—	—	14.7	—	—	0.4	15.1
Currency translation adjustments, including tax benefit of \$6.2	—	—	—	—	(36.1)	—	(36.1)
Stock based compensation	—	—	138.0	—	—	—	138.0
Restricted stock activity	0.1	—	(40.4)	—	—	—	(40.4)
Dividends declared (\$2.31 per share)	—	—	—	(243.2)	—	—	(243.2)
Balances at December 31, 2021	105.5	\$1.1	\$2,307.8	\$9,455.6	\$(183.1)	\$(17.6)	\$11,563.8

See accompanying notes to Consolidated Financial Statements.

ROPER TECHNOLOGIES, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

(in millions)

	Year ended December 31,		
	2021	2020	2019
Cash flows from operating activities:			
Net earnings from continuing operations	\$ 982.6	\$ 825.5	\$ 1,640.0
Adjustments to reconcile net earnings from continuing operations to cash flows from operating activities:			
Depreciation and amortization of property, plant and equipment	49.7	46.7	43.1
Amortization of intangible assets	584.4	466.2	365.7
Amortization of deferred financing costs	13.5	10.9	7.3
Non-cash stock compensation	136.1	117.0	101.2
Impairment of intangible assets	99.5	—	—
Gain on disposal of assets and businesses, net of associated income tax	(21.6)	—	(687.3)
Income tax provision, excluding tax associated with gain on disposal of businesses and assets	282.9	225.9	184.0
Changes in operating assets and liabilities, net of acquired businesses:			
Accounts receivable	(100.2)	55.0	(30.7)
Unbilled receivables	(19.4)	0.2	6.3
Inventories	(13.9)	0.1	(14.1)
Accounts payable and accrued liabilities	66.3	93.1	(7.0)
Deferred revenue	164.5	60.3	114.2
Cash tax paid for gain on disposal of businesses	—	(201.9)	(39.4)
Cash income taxes paid, excluding tax associated with gain on disposal of businesses	(320.7)	(311.6)	(328.3)
Other, net	(37.5)	(19.4)	(23.8)
Cash provided by operating activities from continuing operations	1,866.2	1,368.0	1,331.2
Cash provided by operating activities from discontinued operations	145.7	157.1	130.6
Cash provided by operating activities	2,011.9	1,525.1	1,461.8
Cash flows from (used in) investing activities:			
Acquisitions of businesses, net of cash acquired	(217.0)	(6,018.1)	(2,387.3)
Capital expenditures	(32.9)	(28.3)	(43.0)
Capitalized software expenditures	(29.7)	(17.7)	(10.2)
Proceeds from (used in) disposal of businesses	—	(4.3)	1,156.8
Proceeds from sale of assets	27.1	—	—
Other, net	(0.7)	(2.6)	(2.3)
Cash used in investing activities from continuing operations	(253.2)	(6,071.0)	(1,286.0)
Proceeds from disposition of discontinued operations	115.6	—	—
Cash used in investing activities from discontinued operations	(5.3)	(2.9)	(10.0)
Cash used in investing activities	(142.9)	(6,073.9)	(1,296.0)
Cash flows from (used in) financing activities:			
Proceeds from senior notes	—	3,300.0	1,200.0
Payment of senior notes	(500.0)	(600.0)	—
Borrowings (payments) under revolving line of credit, net	(1,150.0)	1,620.0	(865.0)
Debt issuance costs	—	(42.0)	(12.1)
Cash dividends to stockholders	(236.4)	(214.1)	(191.7)
Treasury stock sales	15.1	10.5	6.8
Proceeds from stock based compensation, net	64.3	64.4	34.9
Other, net	(0.1)	(0.2)	(0.6)
Cash provided by (used in) financing activities from continuing operations	(1,807.1)	4,138.6	172.3
Cash provided by (used in) financing activities from discontinued operations	(6.4)	(1.7)	4.7
Cash provided by (used in) financing activities	(1,813.5)	4,136.9	177.0

(Continued)

ROPER TECHNOLOGIES, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS – CONTINUED

(in millions)

	Year ended December 31,		
	2021	2020	2019
Effect of exchange rate changes on cash	(12.3)	10.5	2.5
Net increase (decrease) in cash and cash equivalents	43.2	(401.4)	345.3
Cash and cash equivalents, beginning of year	308.3	709.7	364.4
Cash and cash equivalents, end of year	\$ 351.5	\$ 308.3	\$ 709.7
Supplemental disclosures:			
Cash paid for:			
Interest	222.2	\$ 197.7	\$ 171.5
Noncash investing activities:			
Net assets of businesses acquired:			
Fair value of assets, including goodwill	\$ 249.8	\$ 6,715.4	\$ 2,472.4
Liabilities assumed	(32.8)	(697.3)	(85.1)
Cash paid, net of cash acquired	\$ 217.0	\$ 6,018.1	\$ 2,387.3

See accompanying notes to Consolidated Financial Statements.

ROPER TECHNOLOGIES, INC. AND SUBSIDIARIES NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Years ended December 31, 2021, 2020 and 2019

(Dollar and share amounts in millions unless specified, except per share data)

(1) SUMMARY OF ACCOUNTING POLICIES

Basis of Presentation—These financial statements present consolidated information for Roper Technologies, Inc. and its subsidiaries (“Roper,” the “Company,” “we,” “our” or “us”). All significant intercompany accounts and transactions have been eliminated. Certain prior period amounts have been reclassified to conform to current period presentation.

Nature of the Business—Roper is a diversified technology company. The Company operates businesses that design and develop software (both license and SaaS) and engineered products and solutions for a variety of niche end markets.

Discontinued Operations—During 2021, the Company signed definitive agreements to divest its TransCore, Zetec and CIVCO Radiotherapy businesses, which are presented as discontinued operations for all periods presented. Unless otherwise noted, discussion within these Notes to Consolidated Financial Statements relate to continuing operations. Refer to Note 3 for additional information on discontinued operations.

Recent Accounting Pronouncements—The Financial Accounting Standards Board (“FASB”) establishes changes to accounting principles under GAAP in the form of accounting standards updates (“ASUs”) to the FASB’s Accounting Standards Codification (“ASC”). The Company considers the applicability and impact of all ASUs. Any ASUs not listed below were assessed and determined to be either not applicable or are expected to have an immaterial impact on the Company’s results of operations, financial position or cash flows.

Recently Adopted Accounting Pronouncements

In October 2021, the FASB issued an update to improve the accounting for acquired revenue contracts with customers in a business combination by promoting consistency in the recognition of an acquired contract liability and the subsequent revenue recognized by the acquirer. The update is effective for fiscal years beginning after December 15, 2022, including interim periods within those fiscal years, with early adoption permitted. The Company early-adopted this update in the fourth quarter of 2021. This update did not have a material impact on the acquisitions completed in 2021 and the future impact of adoption, if any, will depend on the acquisitions made by the Company.

The Company adopted ASC Topic 326, Financial Instruments - Credit Losses (“ASC 326”), as of January 1, 2020 using the modified retrospective transition method. We recorded a noncash cumulative effect decrease to retained earnings of \$1.7, net of income taxes, on our opening consolidated balance sheet as of January 1, 2020.

Significant Accounting Policies

Cash and Cash Equivalents—Roper considers highly liquid financial instruments with remaining maturities at acquisition of three months or less to be cash equivalents. Roper had no cash equivalents at both December 31, 2021 and 2020.

Contingencies—Management continually assesses the probability of any adverse judgments or outcomes to its potential contingencies. Disclosure of the contingency is made if there is at least a reasonable possibility that a loss or an additional loss may have been incurred. In the assessment of contingencies as of December 31, 2021, management concluded that there were no matters for which there was a reasonable possibility of a material loss.

Earnings per Share—Basic earnings per share were calculated using net earnings and the weighted-average number of shares of common stock outstanding during the respective year. Diluted earnings per share were calculated using net earnings and the weighted-average number of shares of common stock and potential common stock associated with stock options outstanding during the respective year.

The effects of potential common stock were determined using the treasury stock method:

	Year ended December 31,		
	2021	2020	2019
Basic weighted-average shares outstanding	105.3	104.6	103.9
Effect of potential common stock:			
Common stock awards	1.2	1.1	1.2
Diluted weighted-average shares outstanding	106.5	105.7	105.1

As of and for the years ended December 31, 2021, 2020 and 2019, there were 0.521, 0.208 and 0.627 outstanding stock options, respectively, that were not included in the determination of diluted earnings per share because doing so would have been antidilutive.

Estimates—The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities. Actual results could differ from those estimates.

Foreign Currency Translation and Transactions—Assets and liabilities of subsidiaries whose functional currency is not the U.S. dollar were translated at the exchange rate in effect at the balance sheet date, and revenues and expenses were translated at average exchange rates for the period in which those entities were included in Roper’s financial results. Translation adjustments are reflected as a component of other comprehensive income. Foreign currency transaction gains and losses are recorded in the Consolidated Statements of Earnings within “Other income (expense), net.” Foreign currency transaction losses were \$1.4, \$4.5 and \$3.5 for the years ended December 31, 2021, 2020 and 2019, respectively.

Goodwill and Other Intangibles—Roper accounts for goodwill in a purchase business combination as the excess of the cost over the estimated fair value of net assets acquired. Business combinations can also result in other intangible assets being recognized. Amortization of intangible assets, if applicable, occurs over their estimated useful lives. Goodwill, which is not amortized, is tested for impairment on an annual basis (or an interim basis if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying value). When testing goodwill for impairment, the Company has the option to first assess qualitative factors to determine whether the existence of events or circumstances leads to a determination that it is more likely than not that the estimated fair value of a reporting unit is less than its carrying amount. If the Company elects to perform a qualitative assessment and determines that an impairment is more likely than not, then performance of the quantitative impairment test is required. The quantitative process utilizes both an income approach (discounted cash flows) and a market approach (consisting of a comparable public company earnings multiples methodology) to estimate the fair value of a reporting unit. To determine the reasonableness of the estimated fair values, the Company reviews the assumptions to ensure that neither the income approach nor the market approach provides significantly different valuations. If the estimated fair value exceeds the carrying value, no further work is required and no impairment loss is recognized. If the carrying value exceeds the estimated fair value, a non-cash impairment loss is recognized in the amount of that excess.

When performing the quantitative assessment, key assumptions used in the income and market methodologies are updated when the analysis is performed for each reporting unit. The assumptions that have the most significant effect on the fair value calculations are the projected revenue growth rates, future operating margins, discount rates, terminal values and earnings multiples. While the Company uses reasonable and timely information to prepare its discounted cash flow analysis, actual future cash flows or market conditions could differ significantly resulting in future impairment charges related to recorded goodwill balances.

Roper has 34 reporting units with individual goodwill amounts ranging from zero to \$3,245.3. In 2021, the Company performed its annual impairment test in the fourth quarter for all reporting units. The Company conducted its analysis qualitatively and assessed whether it was more likely than not that the respective fair value of these reporting units was less than the carrying amount. The Company determined that impairment of goodwill was not likely in any of its reporting units and thus was not required to perform a quantitative analysis for these reporting units.

Recently acquired reporting units generally represent a higher inherent risk of impairment, which typically decreases as the businesses are integrated into the enterprise. Negative industry or economic trends, disruptions to its business, actual results significantly below expected results, unexpected significant changes or planned changes in the use of the assets, divestitures and market capitalization declines may have a negative effect on the fair value of Roper’s reporting units.

The following events or circumstances, although not comprehensive, would be considered to determine whether interim testing of goodwill would be required:

- a significant adverse change in legal factors or in the business climate;
- an adverse action or assessment by a regulator;
- unanticipated competition;
- a loss of key personnel;
- a more-likely-than-not expectation that a reporting unit or a significant portion of a reporting unit will be sold or otherwise disposed of;
- the testing for recoverability of a significant asset group within a reporting unit; and
- recognition of a goodwill impairment loss in the financial statements of a subsidiary that is a component of a reporting unit.

Business combinations can also result in other intangible assets being recognized. Amortization of intangible assets, if applicable, occurs over their estimated useful lives. Trade names that are determined to have indefinite useful economic lives are not amortized, but separately tested for impairment during the fourth quarter of the fiscal year or on an interim basis if an event occurs that indicates the fair value is more likely than not below the carrying value. Roper first qualitatively assesses whether the existence of events or circumstances leads to a determination that it is more likely than not that the estimated fair value of an indefinite-lived trade name is less than its carrying amount. If necessary, Roper conducts a quantitative review using the relief-from-royalty method. This methodology assumes that, in lieu of ownership, a third party would be willing to pay a royalty in order to exploit the related benefits of these assets. To the extent the Company determines a fair value, the inputs used represent a Level 3 fair value measurement in the FASB fair value hierarchy given that the inputs are unobservable. The assumptions that have the most significant effect on the fair value calculations are the royalty rates, projected revenue growth rates, discount rates and terminal values. Each royalty rate is determined based on the profitability of the trade

name to which it relates and observed market royalty rates. Revenue growth rates are determined after considering current and future economic conditions, recent sales trends, discussions with customers, planned timing of new product launches or other variables. Trade names resulting from recent acquisitions generally represent the highest risk of impairment, which typically decreases as the businesses are integrated into Roper.

During the fourth quarter of 2021, the Company determined the use of the Sunquest trade name would be discontinued given the strategic action to merge the Sunquest business into our CliniSys business, both of which are reported in our Application Software reportable segment. Considering the planned merger and updated market comparisons, the royalty rate utilized in the quantitative impairment assessment of the trade name was 0.5% as compared to a royalty rate of 3.5% used in the prior year. The royalty rate reduction was the significant assumption that resulted in a non-cash impairment charge of \$94.4 recognized as a component of "Impairment of intangible assets" within the Consolidated Statements of Earnings.

The assessment of fair value for impairment purposes requires significant judgments to be made by management. Although forecasts are based on assumptions that are considered reasonable by management and consistent with the plans and estimates management uses to operate the underlying businesses, there is significant judgment in estimating future operating results. Changes in estimates or the application of alternative assumptions could produce significantly different results.

The most significant identifiable intangible assets with definite useful economic lives recognized from our acquisitions are customer relationships. The fair value for customer relationships is determined as of the acquisition date using the excess earnings method. Under this methodology the fair value is determined based on the estimated future after-tax cash flows arising from the acquired customer relationships over their estimated lives after considering customer attrition and contributory asset charges. The assumptions that have the most significant effect on the fair value calculations are the customer attrition rates, projected customer revenue growth rates, margins, contributory asset charges and discount rates. When testing customer relationship intangible assets for potential impairment, management considers historical customer attrition rates and projected revenues and profitability related to customers that existed at acquisition. In evaluating the amortizable life for customer relationship intangible assets, management considers historical customer attrition patterns.

Roper evaluates whether there has been an impairment of identifiable intangible assets with definite useful economic lives, or of the remaining life of such assets, when certain indicators of impairment are present. In the event that facts and circumstances indicate that the cost or remaining period of amortization of any asset may be impaired, an evaluation of recoverability would be performed. If an evaluation is required, the estimated future gross, undiscounted cash flows associated with the asset would be compared to the asset's carrying amount to determine if a write-down to fair value or a revision in the remaining amortization period is required.

During the fourth quarter of 2021, Sunquest also recognized a non-cash impairment charge of \$5.1 representing the unamortized balance related primarily to a software intangible asset that will be discontinued in 2022. This impairment charge is included as a component of "Impairment of intangible assets" within the Consolidated Statements of Earnings.

Impairment of Long-Lived Assets—The Company determines whether there has been an impairment of long-lived assets, excluding goodwill and other intangible assets, when certain indicators of impairment are present. In the event that facts and circumstances indicate that the cost or life of any long-lived assets may be impaired, an evaluation of recoverability would be performed. If an evaluation is required, the estimated future gross, undiscounted cash flows associated with the asset would be compared to the asset's carrying amount to determine if a write-down to fair value or revision to remaining life is required. Future adverse changes in market conditions or poor operating results of underlying long-lived assets could result in losses or an inability to recover the carrying value of the long-lived assets that may not be reflected in the assets' current carrying value, thereby possibly requiring an impairment charge or acceleration of depreciation or amortization expense in the future.

Income Taxes—The Company recognizes in the Consolidated Financial Statements only those tax positions determined to be "more likely than not" of being sustained upon examination based on the technical merits of the positions. Interest and penalties related to unrecognized tax benefits are classified as a component of income tax expense.

The Company records a valuation allowance to reduce its deferred tax assets if, based on the weight of available evidence, both positive and negative, for each respective tax jurisdiction, it is more likely than not that some portion or all of such deferred tax assets will not be realized. Available evidence which is considered in determining the amount of valuation allowance required includes, but is not limited to, the Company's estimate of future taxable income and any applicable tax-planning strategies.

Certain assets and liabilities have different basis for financial reporting and income tax purposes. Deferred income taxes have been provided for these differences at the enacted tax rates expected to be paid. See Note 8 for information regarding income taxes.

Inventories—Inventories are valued at the lower of cost and net realizable value. Cost is determined using the first-in, first-out method. The Company writes down its inventory for estimated obsolescence or excess inventory equal to the difference between the cost of inventory and the estimated net realizable value based upon assumptions about future demand and market conditions.

Product Warranties—The Company sells certain of its products to customers with a product warranty that allows customers to return a defective product during a specified warranty period following the purchase in exchange for a replacement product, repair at no cost to the customer or the issuance of a credit to the customer. The Company accrues its estimated exposure to warranty claims based upon current and historical product sales data, warranty costs incurred and any other related informa-

tion known to the Company.

Property, Plant and Equipment and Depreciation and Amortization—Property, plant and equipment is stated at cost less accumulated depreciation and amortization. Depreciation and amortization are provided for using principally the straight-line method over the estimated useful lives of the assets as follows:

Buildings	20-30 years
Machinery	8-12 years
Other equipment and software	3-5 years

Research, Development and Engineering—Research, development and engineering (“R,D&E”) costs include salaries and benefits, rents, supplies, and other costs related to products under development or improvements to existing products. R,D&E costs are expensed as incurred and are included within selling, general and administrative expenses. R,D&E expenses totaled \$528.4, \$423.6 and \$379.7 for the years ended December 31, 2021, 2020 and 2019, respectively.

Revenue Recognition—The reported results reflect the application of ASC 606 guidance. The amount of revenue recognized reflects the consideration which the Company expects to be entitled to receive in exchange for these products and/or services. To achieve this principle, the Company applies the following five steps:

- identify the contract with the customer;
- identify the performance obligations in the contract;
- determine the transaction price;
- allocate the transaction price to performance obligations in the contract; and
- recognize revenue when or as the Company satisfies a performance obligation.

Disaggregated Revenue—We disaggregate our revenues into two categories: (i) software and related services; and (ii) engineered products and related services. Software and related services revenues are primarily derived from our Application Software and Network Software & Systems reportable segments. Engineered products and related services revenues are derived from all of our reportable segments except Application Software and comprise substantially all of the revenues generated in our Measurement & Analytical Solutions and Process Technologies reportable segments. See details in the table below.

	Year ended December 31,		
	2021	2020	2019
Software and related services	\$ 3,604.3	\$ 2,871.1	\$ 2,477.7
Engineered products and related services	2,173.5	1,983.1	2,250.0
Net revenues	\$ 5,777.8	\$ 4,854.2	\$ 4,727.7

Software and related services

SaaS—SaaS subscriptions and associated support are generally accounted for as a single performance obligation and recognized ratably over the contractual term. In addition, SaaS arrangements may include implementation services which are accounted for as a separate performance obligation and recognized over time, using the input method. Payment is generally required within 30 days of the commencement of the SaaS subscription period, which is primarily offered to customers over a one-year timeframe.

Licensed Software—Performance obligations in our customer contracts may include:

- Perpetual or time-based (“term”) software licenses
- Post contract support (“PCS”)
- Implementation/installation services

Software licenses may be combined with implementation/installation services as a single performance obligation if the implementation/installation significantly modifies or customizes the functionality of the software license.

We recognize revenue over time or at a point in time depending on our evaluation of when the customer obtains control over the promised products or services. Revenues from software implementation projects are generally recognized over time using the input method, utilizing the ratio of costs or labor hours incurred to total estimated costs or labor, as the measure of performance. For software arrangements that include multiple performance obligations, we allocate revenue to each performance obligation based on estimates of the price that we would charge the customer for each promised product or service if it were sold on a standalone basis.

Payment for software licenses is generally required within 30 to 60 days of the transfer of control. Payment for PCS is generally required within 30 to 60 days of the commencement of the service period, which is primarily offered to customers over a one-year timeframe. Payment terms do not contain a significant financing component. Payment for implementation/installation services that are recognized over time are typically commensurate with milestones defined in the contract, or billable hours incurred.

Engineered products and related services

Revenue from product sales is recognized when control transfers to the customer, which is generally when the product is shipped.

Non-project-based installation and repair services are performed by certain of our businesses for which revenue is recognized upon completion.

Payment terms are generally 30 to 60 days from the transfer of control. Payment terms do not contain a significant financing component.

Preventative maintenance service revenues are recognized over time using the input method. If we determine our efforts or inputs are expended evenly throughout the performance period, we generally recognize revenue on a straight-line basis. Payment for preventative maintenance services are typically commensurate with milestones defined in the contract.

We offer customers return rights and other credits subject to certain restrictions. We estimate variable consideration generally based on historical experience to arrive at the transaction price, or the amount to which we ultimately expect to be entitled from the customer.

Accounts receivable, net—Accounts receivable, net includes amounts billed and currently due from customers. The amounts due are stated at their net estimated realizable value. Accounts receivable are stated net of an allowance for doubtful accounts and sales allowances of \$19.7 and \$28.1 at December 31, 2021 and 2020, respectively. We make estimates of expected allowance for doubtful accounts based upon our assessment of various factors, including historical experience, the age of the accounts receivable balances, changes to customer creditworthiness and other factors that may affect our ability to collect from customers.

Unbilled receivables—Our unbilled receivables include unbilled amounts typically resulting from sales under project-based contracts when the input method of revenue recognition is utilized and revenue recognized exceeds the amount billed to the customer, and right to payment is not solely due to the passage of time. Amounts may not exceed their net realizable value.

Deferred revenues—We record deferred revenues when cash payments are received or due in advance of our performance. Our deferred revenues relate primarily to software and related services. In most cases, we recognize these deferred revenues ratably over time as the SaaS or PCS performance obligation is satisfied. The non-current portion of deferred revenue is included in “Other liabilities” in our Consolidated Balance Sheets.

Our unbilled receivables and deferred revenues are reported in a net position on a contract-by-contract basis at the end of each reporting period. The net balances are classified as current or non-current based on expected timing of revenue recognition and billable milestones.

Deferred commissions—Our incremental direct costs of obtaining a contract, which consist of sales commissions primarily for our software sales, are deferred and amortized on a straight-line basis over the period of contract performance or a longer period, depending on facts and circumstances. We classify deferred commissions as current or non-current based on the timing of when we expect to recognize the expense. The current and non-current portions of deferred commissions are included in “Other current assets” and “Other assets,” respectively, in our Consolidated Balance Sheets. At December 31, 2021 and 2020, the current portion of deferred commissions was \$32.5 and \$25.0, respectively, and the non-current portion of deferred commissions was \$24.2 and \$17.5, respectively. The Company recognized \$27.2, \$30.1 and \$30.1 of expense related to deferred commissions for the years ended December 31, 2021, 2020 and 2019, respectively.

Remaining performance obligations—Remaining performance obligations represents the transaction price of firm orders for which work has not been performed and excludes unexercised contract options. As of December 31, 2021, the aggregate amount of the transaction price allocated to remaining performance obligations was \$3,790.4. We expect to recognize revenue on approximately 68% of our remaining performance obligations over the next 12 months, with the remainder to be recognized thereafter.

Capitalized Software—The Company accounts for capitalized software under applicable accounting guidance which, among other provisions, requires capitalization of certain internal-use software costs once certain criteria are met. Overhead, general and administrative and training costs are not capitalized. Capitalized software balances, net of accumulated amortization, were \$65.9 and \$43.1 at December 31, 2021 and 2020, respectively, which are included in “Other Assets” our Consolidated Balance Sheets.

Stock-Based Compensation—The Company recognizes expense for the grant date fair value of its employee stock awards on a straight-line basis (or, in the case of performance-based awards, on a graded basis) over the employee’s requisite service period (generally the vesting period of the award). The fair value of option awards is estimated using the Black-Scholes option valuation model.

(2) BUSINESS ACQUISITIONS AND DISPOSITIONS

Acquisitions

2021 Acquisitions—Roper completed seven business acquisitions in the year ended December 31, 2021 with an aggregate purchase price of \$225.9, net of cash acquired and debt assumed. The results of operations of the acquired businesses are included in Roper’s Consolidated Financial Statements since the date of each acquisition. Pro forma results of operations and the revenue and net income subsequent to the acquisition date for the acquisitions completed during fiscal 2021 have not been presented because the effects of the acquisitions, individually and in the aggregate, were not material to our financial results.

During the first three quarters of 2021, Roper completed four acquisitions which are being integrated into our Deltek business

and its results are reported in the Application Software reportable segment.

On November 18, 2021, Roper acquired substantially all of the assets of Agency Zoom, LLC (“Agency Zoom”), a provider of sales, marketing and service automation software solutions for insurance agencies. Agency Zoom is integrating into our Vertafore business and its results are reported in the Application Software reportable segment.

On December 21, 2021, Roper acquired a majority of the assets of The Construction Journal, LTD. (“Construction Journal”), a provider of selling, marketing, and licensing software solutions for the commercial construction industry. Construction Journal is integrating into our ConstructConnect business and its results are reported in the Network Software and Systems reportable segment.

On December 30, 2021, Roper acquired 100% of the shares of American LegalNet, Inc. (“ALN”), a provider of court forms, eFiling, calendaring and docketing software solutions. ALN is integrating into our Aderant business and its results are reported in the Application Software reportable segment.

The Company recorded \$138.8 in goodwill and \$104.9 of other identifiable intangibles in connection with these seven acquisitions. The amortizable intangible assets include customer relationships of \$94.6 (12.9 year weighted average useful life) and technology of \$10.3 (5.3 year weighted average useful life).

Subsequent to the year ended December 31, 2021, on January 3, 2022, Roper acquired 100% of the membership interests of Horizon Lab Systems, LLC (“HLS”) for a purchase price of \$49.7, net of cash acquired and debt assumed. HLS is a leading provider of laboratory information management systems in the toxicology, environmental, public health and agricultural markets. HLS is integrating into our CliniSys business and its results will be reported in the Application Software reportable segment beginning in the first quarter of 2022.

2020 Acquisitions—Roper completed six business acquisitions in the year ended December 31, 2020. The results of operations of the acquired businesses are included in Roper’s Consolidated Financial Statements since the date of each acquisition. Pro forma results of operations and the revenue and net income subsequent to the acquisition date for the acquisitions completed during fiscal 2020 have not been presented because the effects of the acquisitions, individually and in the aggregate, were not material to our financial results.

The largest of the 2020 acquisitions was Vertafore, Inc. (“Vertafore”), a leading provider of SaaS solutions for the property and casualty insurance industry. Roper acquired 100% of the shares of Project Viking Holdings, Inc. (the parent company of Vertafore) on September 3, 2020, for a purchase price of \$5,398.6. The purchase price comprises an enterprise value of \$5,335.0 and the settlement of certain liabilities, net of cash acquired. Additionally, the purchase price contemplated approximately \$120 of federal tax attributes that were substantially utilized by the end of 2021. The results of Vertafore are reported in the Application Software reportable segment.

The Company recorded \$3,229.1 in goodwill and \$2,660.0 of other identifiable intangibles in connection with the Vertafore acquisition. The majority of the goodwill is not expected to be deductible for tax purposes. Of the \$2,660.0 of acquired intangible assets, \$120.0 was assigned to trade names that are not subject to amortization. The remaining \$2,540.0 of acquired intangible assets include customer relationships of \$2,230.0 (17 year useful life) and unpatented technology of \$310.0 (8 year useful life).

Net assets acquired also includes \$489 of deferred tax liabilities, which are due primarily to \$638 of deferred tax liabilities associated with acquired intangible assets, partially offset primarily by approximately \$120 of federal tax attributes.

During the year ended December 31, 2020, Roper completed five other acquisitions with an aggregate purchase price of \$612.8, net of cash acquired and debt assumed.

Acquisition of Freight Market Intelligence Consortium—On June 9, 2020, Roper acquired substantially all of the assets of Freight Market Intelligence Consortium (“FMIC”), a leading provider of subscription-based freight transaction benchmarking and analysis service. FMIC was integrated into our DAT business and its results are reported in the Network Software & Systems reportable segment.

Acquisition of Team TSI Corporation—On June 15, 2020, Roper acquired substantially all of the assets of Team TSI Corporation (“Team TSI”), a leading provider of subscription-based data analytics serving long term health care facilities. Team TSI was integrated into our SHP business and its results are reported in the Network Software & Systems reportable segment.

Acquisition of Impact Financial Systems—On September 15, 2020, Roper acquired substantially all of the assets of Impact Financial Systems (“IFS”), a leading provider of service request automation solutions for client onboarding, transaction automation, maintenance and advisor transitions. IFS was integrated into our iPipeline business and its results are reported in the Network Software & Systems reportable segment.

Acquisition of WELIS—On September 18, 2020, Roper acquired all of the membership interests of WELIS, a premier provider of life insurance illustration systems to carriers in the US. WELIS was integrated into our iPipeline business and its results are reported in the Network Software & Systems reportable segment.

Acquisition of EPSi—On October 15, 2020, Roper acquired substantially all of the assets of EPSi, a leading provider of financial decision support and planning tools for hospitals and health systems. EPSi was integrated into our Strata business and its results are reported in the Application Software reportable segment.

The Company recorded \$303.9 in goodwill and \$313.0 of other identifiable intangibles in connection with these five acquisitions. The amortizable intangible assets include customer relationships of \$283.7 (16 year weighted average useful life) and technology of \$29.3 (5 year weighted average useful life).

2019 Acquisitions—Roper completed four business acquisitions in the year ended December 31, 2019, with an aggregate purchase price of \$2,387.6, net of cash acquired. The results of operations of the acquired businesses are included in Roper's Consolidated Financial Statements since the date of each acquisition. Pro forma results of operations and the revenue and net income subsequent to the acquisition date for the acquisitions completed during fiscal 2019 have not been presented because the effects of the acquisitions, individually and in the aggregate, were not material to our financial results.

Acquisition of Foundry—On April 18, 2019, Roper acquired 100% of the shares of Foundry, a leading provider of software technologies used to deliver visual effects and 3D content for the entertainment, digital design, and visualization industries. The results of Foundry are reported in the Network Software & Systems reportable segment.

Acquisition of ComputerEase—On August 19, 2019, Roper acquired substantially all of the assets of ComputerEase Software, a leading provider of integrated accounting, project management and field-to-office solutions for commercial construction firms. ComputerEase was integrated into our Deltek business and its results are reported in the Application Software reportable segment.

Acquisition of iPipeline—On August 22, 2019, Roper acquired 100% of the shares of iPipeline Holdings, Inc., a leading provider of cloud-based software solutions for the life insurance and financial services industries. The results of iPipeline are reported in the Network Software & Systems reportable segment.

Acquisition of Bellefield—On December 18, 2019, Roper acquired substantially all of the assets of Bellefield Systems which provides SaaS solutions targeting the front office of law firms, specifically focused on professional service automation, compliance and timekeeping. Bellefield was integrated into our Aderant business and its results are reported in the Application Software reportable segment.

The Company recorded \$1,447.0 in goodwill and \$1,181.9 of other identifiable intangibles in connection with the acquisitions. The majority of the goodwill is not expected to be deductible for tax purposes. The amortizable intangible assets include customer relationships of \$1,020.0 (15.8 year weighted average useful life) and technology of \$109.3 (6.8 year weighted average useful life).

Dispositions

On March 17, 2021, Roper completed the sale of a minority investment in Sedaru, Inc. for \$27.1 in cash. The sale resulted in a pretax gain of \$27.1, which is reported within "Other income (expense), net" in the Consolidated Statements of Earnings. In addition, we recognized income tax expense of \$5.5 in connection with the sale, which is included within "Income taxes" in the Consolidated Statements of Earnings.

On October 29, 2019, the Company closed on its sale of Gatan to AMETEK for approximately \$925.0 in cash. The sale resulted in a pretax gain of \$801.1, which is reported within "Gain on disposal of businesses" in the Consolidated Statements of Earnings. The results of Gatan are reported in the Measurement & Analytical Solutions segment through such date. In addition, we recognized income tax expense of \$201.2 in connection with the sale, which is included within "Income taxes" in the Consolidated Statements of Earnings.

On February 5, 2019, the Company closed on its sale of the Imaging businesses to Teledyne for approximately \$225.0 in cash. The results of the Imaging businesses are reported in the Measurement & Analytical Solutions segment through such date. The sale resulted in a pretax gain of \$119.6, which is reported within "Gain on disposal of businesses" in the Consolidated Statements of Earnings. In addition, we recognized income tax expense of \$32.2 in connection with the sale, which is included within "Income taxes" in the Consolidated Statements of Earnings.

(3) DISCONTINUED OPERATIONS

During the year ended December 31, 2021, the Company signed definitive agreements to divest its TransCore, Zetec and CIVCO Radiotherapy businesses as described below.

- On November 1, 2021, Roper closed on the sale of the CIVCO Radiotherapy business to an affiliate of Blue Wolf Capital Partners LLC, for approximately \$120.0 in cash. The sale resulted in a pretax gain of \$77.2 and income tax expense of \$21.3, which are reported within "Gain on disposition of discontinued operations, net of tax" in the Consolidated Statements of Earnings. CIVCO Radiotherapy was previously included in the Measurement & Analytical Solutions reportable segment.
- On January 5, 2022, Roper closed on the sale of the Zetec business to Eddyfi NDT Inc. for approximately \$350.0 in cash. The Company is currently calculating the gain and associated tax expense on the sale, which will be disclosed within the Company's first quarter 2022 Quarterly Report on Form 10-Q. Zetec was previously included in the Process Technologies reportable segment.
- On October 1, 2021, Roper signed a definitive agreement to divest its TransCore business to an affiliate of Singapore Technologies Engineering Ltd., for approximately \$2,680.0 in cash. The transaction, which is expected to close in the first quarter of 2022, is subject to customary closing conditions, including regulatory approvals. TransCore was previously included in the Network Software & Systems reportable segment.

We concluded these disposal activities, in the aggregate, represented a strategic shift that will have a major effect on our operations and financial results. These divestitures significantly enhance our mix of high-margin, recurring revenue businesses and notably reduce our working capital requirements. Accordingly, the financial results of the TransCore, Zetec and CIVCO Radiotherapy businesses are presented in the Consolidated Financial Statements as discontinued operations for all periods presented, as applicable. Current and non-current assets and liabilities of these businesses are presented in the Consolidated Balance Sheet as assets and liabilities of discontinued operations classified as held for sale for both periods presented.

The following tables summarize the major classes of assets and liabilities related to the discontinued operations of the TransCore, Zetec and CIVCO Radiotherapy businesses, as applicable, as reported in the Consolidated Balance Sheets at December 31:

	2021 ⁽¹⁾	2020
Accounts receivable, net	\$ 74.7	\$117.3
Inventories, net	47.8	33.3
Unbilled receivables	158.2	168.9
Goodwill	405.5	—
Other intangible assets, net	31.0	—
Other current assets	71.4	4.7
Current assets held for sale	788.6	324.2
Goodwill	—	429.2
Other intangible assets, net	—	38.7
Other assets	—	53.7
Assets held for sale	\$ —	\$521.6
Accounts payable	\$ 40.3	\$ 50.7
Accrued compensation	27.0	23.5
Deferred taxes	29.5	—
Other current liabilities	62.3	46.6
Current liabilities held for sale	159.1	120.8
Deferred taxes	—	31.0
Other liabilities	—	33.1
Liabilities held for sale	\$ —	\$ 64.1

(1) All assets and liabilities held for sale were classified as current as it was probable that the sale of TransCore and Zetec would be completed within one year from the balance sheet date.

The following table summarizes the major classes of revenue and expenses constituting net earnings from discontinued operations attributable to the TransCore, Zetec and CIVCO Radiotherapy businesses:

	Year ended December 31,		
	2021	2020	2019
Net revenues	\$ 638.0	\$ 672.9	\$ 639.1
Cost of sales	372.9	400.7	352.1
Gross profit	265.1	272.2	287.0
Selling, general and administrative expenses ⁽¹⁾	124.0	114.6	116.9
Income from operations	141.1	157.6	170.1
Other income (expense), net	1.5	0.3	(0.1)
Earnings before income taxes ⁽²⁾	142.6	157.9	170.0
Income taxes	28.5	33.7	42.1
Earnings from discontinued operations, net of tax	114.1	124.2	127.9
Gain on disposition of discontinued operations, net of tax	55.9	—	—
Net earnings from discontinued operations	\$ 170.0	\$ 124.2	\$ 127.9

(1) Includes stock-based compensation expense of \$5.4, \$4.8 and \$3.4 for the years ended December 31, 2021, 2020, and 2019, respectively. Stock-based compensation for discontinued operations was previously reported as a component of unallocated corporate general and administrative expenses. In connection with the sale of CIVCO Radiotherapy, we recognized expense of \$0.9 associated with accelerated vesting of share-based awards. These charges were recorded as a component of "Gain on disposition of discontinued operations, net of tax" within the Consolidated Statements of Earnings.

(2) Includes depreciation and amortization of \$5.2, \$7.9 and \$7.2 for the years ended December 31, 2021, 2020, and 2019, respectively.

(4) INVENTORIES

The components of inventories at December 31 were as follows:

	2021	2020
Raw materials and supplies	\$ 112.7	\$ 104.0
Work in process	30.2	22.9
Finished products	69.3	74.4
Inventory reserves	(36.1)	(36.2)
	\$ 176.1	\$ 165.1

(5) PROPERTY, PLANT AND EQUIPMENT

The components of property, plant and equipment at December 31 were as follows:

	2021	2020
Land	\$ 2.2	\$ 2.2
Buildings	77.5	80.2
Machinery and other equipment	164.4	176.1
Computer equipment	117.5	110.9
Software	77.4	75.7
	439.0	445.1
Accumulated depreciation	(336.2)	(317.8)
	\$ 102.8	\$ 127.3

Depreciation and amortization expense related to property, plant and equipment was \$49.7, \$46.7 and \$43.1 for the years ended December 31, 2021, 2020 and 2019, respectively.

(6) GOODWILL AND OTHER INTANGIBLE ASSETS

The carrying value of goodwill by segment was as follows:

	Application Software	Network Software & Systems	Measurement & Analytical Solutions	Process Technologies	Total
Balances at December 31, 2019	\$ 5,389.4	\$ 3,596.6	\$ 1,155.5	\$ 245.8	\$ 10,387.3
Goodwill acquired	3,399.0	134.0	—	—	3,533.0
Currency translation adjustments	14.5	16.6	11.8	4.4	47.3
Reclassifications and other	(0.6)	(1.0)	—	—	(1.6)
Balances at December 31, 2020	\$ 8,802.3	\$ 3,746.2	\$ 1,167.3	\$ 250.2	\$ 13,966.0
Goodwill acquired	85.9	52.9	—	—	138.8
Currency translation adjustments	(5.8)	(3.0)	(6.7)	(2.6)	(18.1)
Reclassifications and other	6.9	0.9	—	—	7.8
Balances at December 31, 2021	\$ 8,889.3	\$ 3,797.0	\$ 1,160.6	\$ 247.6	\$ 14,094.5

Reclassifications and other during the year ended December 31, 2021 were due primarily to purchase accounting and tax adjustments for acquisitions completed in 2020. See Note 2 for information regarding acquisitions.

Other intangible assets were comprised of:

	Cost	Accum. amort.	Net book value
Assets subject to amortization:			
Customer related intangibles	\$ 7,473.7	\$ (1,688.2)	\$ 5,785.5
Unpatented technology	942.8	(363.9)	578.9
Software	172.4	(127.4)	45.0
Patents and other protective rights	12.0	(6.0)	6.0
Trade names	7.3	(5.6)	1.7
Assets not subject to amortization:			
Trade names	751.1	—	751.1
Balances at December 31, 2020	\$ 9,359.3	\$ (2,191.1)	\$ 7,168.2
Assets subject to amortization:			
Customer related intangibles	\$ 7,532.0	\$ (2,108.0)	\$ 5,424.0
Unpatented technology	906.4	(431.8)	474.6
Software	149.5	(122.4)	27.1
Patents and other protective rights	9.6	(2.1)	7.5
Trade names	12.8	(6.1)	6.7
Assets not subject to amortization:			
Trade names	648.6	—	648.6
Balances at December 31, 2021	\$ 9,258.9	\$(2,670.4)	\$6,588.5

Amortization expense of other intangible assets was \$577.5, \$461.5, and \$363.5 during the years ended December 31, 2021, 2020 and 2019, respectively. Amortization expense is expected to be \$579 in 2022, \$565 in 2023, \$521 in 2024, \$493 in 2025 and \$461 in 2026.

(7) ACCRUED LIABILITIES

Accrued liabilities at December 31 were as follows:

	2021	2020
Interest	\$ 42.6	\$ 44.1
Customer deposits	56.9	48.6
Accrued dividend	66.8	60.0
Rebates	63.0	51.5
Operating lease liability	51.4	56.8
Sales and other taxes payable	25.4	33.4
Other	134.6	124.2
	\$440.7	\$ 418.6

(8) INCOME TAXES

Earnings before income taxes for the years ended December 31, 2021, 2020 and 2019 consisted of the following components:

	2021	2020	2019
United States	\$ 915.3	\$ 752.7	\$ 1,741.2
Other	355.7	298.7	316.2
	\$ 1,271.0	\$ 1,051.4	\$ 2,057.4

Components of income tax expense for the years ended December 31, 2021, 2020 and 2019 were as follows:

	2021	2020	2019
Current:			
Federal	\$ 130.6	\$ 157.5	\$ 366.5
State	56.8	50.0	72.0
Foreign	94.5	75.3	77.9
Deferred:			
Federal	28.0	(56.7)	(47.1)
State	(26.6)	(5.2)	(2.2)
Foreign	5.1	5.0	(49.7)
	\$ 288.4	\$ 225.9	\$ 417.4

Reconciliations between the statutory federal income tax rate and the effective income tax rate for the years ended December 31, 2021, 2020 and 2019 were as follows:

	2021	2020	2019
Federal statutory rate	21.0%	21.0%	21.0%
Foreign operations, net	2.6	1.7	(0.1)
R&D tax credits	(1.8)	(1.4)	(0.5)
State taxes, net of federal benefit	2.7	2.9	1.4
Stock-based compensation	(2.3)	(3.3)	(1.3)
Impact of UK tax rate change	1.7	—	—
Divestitures	—	—	2.0
Legal entity restructuring	(1.2)	—	(2.0)
Other, net	—	0.6	(0.2)
	22.7%	21.5%	20.3%

The deferred income tax balance sheet accounts arise from temporary differences between the amount of assets and liabilities recognized for financial reporting and tax purposes.

Components of the deferred tax assets and liabilities at December 31 were as follows:

	2021	2020
Deferred tax assets:		
Reserves and accrued expenses	\$ 195.8	\$ 175.0
Net operating loss carryforwards	101.5	153.6
R&D credits	12.5	26.2
Interest expense limitation carryforwards	10.9	63.0
Outside basis differences on assets held for sale	57.5	—
Lease liability	52.6	56.3
Valuation allowance	(44.4)	(37.7)
Total deferred tax assets	\$ 386.4	\$ 436.4
Deferred tax liabilities:		
Reserves and accrued expenses	\$16.1	\$21.5
Amortizable intangible assets	1,670.2	1,762.8
Plant and equipment	3.8	7.4
Accrued tax on unremitted foreign earnings	24.7	18.6
ROU asset	50.0	54.4
Total deferred tax liabilities	\$1,764.8	\$1,864.7

As of December 31, 2021, the Company has approximately \$11.1 of tax-effected U.S. federal net operating loss carryforwards. Some of these net operating loss carryforwards have an indefinite carryforward period, and those that do not will begin to expire in 2022 if not utilized. The majority of the U.S. federal net operating loss carryforwards are subject to limitation under the Internal Revenue Code of 1986, as amended ("IRC") Section 382; however, the Company expects to utilize such losses in their entirety prior to expiration. The U.S. federal net operating loss carryforwards decreased from 2020 to 2021 primarily due to current year utilization. The Company has approximately \$39.2 of tax-effected state net operating loss carryforwards (without regard to federal benefit of state). Some of these net operating loss carryforwards have an indefinite carryforward period, and those that do not will begin to expire in 2022 if not utilized. The state net operating loss carryforwards are primarily related to Florida, but the Company has smaller net operating losses in various other states. The Company has approximately \$59.5 of tax-effected foreign net operating loss carryforwards. Some of these net operating loss carryforwards have an indefinite carryforward period, and those that do not will begin to expire in 2022 if not utilized. The foreign net operating loss carryforwards decreased from 2020 to 2021 primarily due to current year utilization. The Company has \$14.8 of U.S. federal and state research and development tax credit carryforwards (without regard to federal benefit of state). Some of these research and development credit carryforwards have an indefinite carryforward period, and those that do not will begin to expire in 2022 if not utilized. The research and development tax credit carryforwards decreased from 2020 to 2021 primarily due to current year utilization. Additionally, as of December 31, 2021, the Company has \$10.9 of IRC Section 163(j) interest expense limitation carryforwards which have an indefinite carryforward period. The interest expense limitation carryforward decreased from 2020 to 2021 primarily due to current year utilization.

As of December 31, 2021, the Company determined that a total valuation allowance of \$44.4 was necessary to reduce U.S. federal and state deferred tax assets by \$25.3 and foreign deferred tax assets by \$19.1, where it was more likely than not that all of such deferred tax assets will not be realized. As of December 31, 2021, the Company believes it is more likely than not that the remaining net deferred tax assets will be realized based on the Company's estimates of future taxable income and any applicable tax-planning strategies within various tax jurisdictions.

The Company recognizes in the Consolidated Financial Statements only those tax positions determined to be "more likely than not" of being sustained upon examination based on the technical merits of the positions.

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

	2021	2020	2019
Beginning balance	\$75.6	\$ 69.8	\$ 63.6
Additions for tax positions of prior periods	2.2	6.0	2.9
Additions for tax positions of the current period	3.3	3.5	4.2
Additions due to acquisitions	1.0	6.2	1.9
Reductions for tax positions of prior periods	(0.6)	(3.6)	(0.3)
Reductions attributable to lapses of applicable statute of limitations	(4.6)	(6.3)	(2.5)
Reductions attributable to settlements with taxing authorities	(27.5)	—	—
Ending balance	\$49.4	\$ 75.6	\$ 69.8

The total amount of unrecognized tax benefits that, if recognized, would impact the effective tax rate is \$48.1. Interest and penalties related to unrecognized tax benefits were \$4.5 in 2021 and are classified as a component of income tax expense. Accrued interest and penalties were \$5.0 at December 31, 2021 and \$9.6 at December 31, 2020. During the next twelve months, it is reasonably possible that the unrecognized tax benefits may decrease by a net \$3.0, mainly due to anticipated statute of limitations lapses in various jurisdictions.

The Company and its subsidiaries are subject to examinations for U.S. federal income tax as well as income tax in various state, city and foreign jurisdictions. The Company's federal income tax returns for 2018 through the current period remain open to examination and the relevant state, city and foreign statutes vary. The Company does not expect the assessment of any significant additional tax in excess of amounts reserved.

The Company intends to distribute all historical unremitted foreign earnings up to the amount of excess foreign cash, as well as all future foreign earnings that can be repatriated without incremental U.S. federal tax cost. Any remaining outside basis differences relating to the Company's investment in foreign subsidiaries are not expected to be material and will be indefinitely reinvested.

(9) LONG-TERM DEBT

On September 2, 2020, the Company entered into a three-year unsecured credit facility (the "Credit Agreement") with, JPMorgan Chase Bank, N.A., as administrative agent, Wells Fargo Bank, N.A. and Bank of America, N.A., as syndication agents, and MUFG Bank, Ltd., Mizuho Bank, Ltd., PNC Bank, National Association, Truist Bank and TD Bank, N.A., as co-documentation agents, which replaced its previous \$2,500.0 unsecured credit facility, dated as of September 23, 2016, as amended. The Credit Agreement comprises a three-year \$3,000.0 revolving credit facility, which includes availability of up to \$150.0 for letters of credit. The Company may also, subject to compliance with specified conditions, request additional term loans or revolving credit commitments in an aggregate amount not to exceed \$500.0.

Amounts outstanding under the Credit Agreement may be accelerated upon the occurrence of customary events of default. The Credit Agreement requires the Company to maintain a Total Debt to Total Capital Ratio (as defined in the Credit Agreement) of 0.65 to 1.00 or less. Borrowings under the Credit Agreement are prepayable at Roper's option at any time in whole or in part without premium or penalty.

At December 31, 2021 and 2020, there were \$470.0 and \$1,620.0 of outstanding borrowings under the Credit Agreement, respectively. The Company was in compliance with its debt covenants throughout the years ended December 31, 2021 and 2020.

On June 22, 2020, the Company completed a public offering of \$600.0 aggregate principal amount of 2.00% senior unsecured notes due June 30, 2030 ("2030 Notes"). The 2030 Notes bear interest at a fixed rate and are payable semi-annually in arrears on June 30 and December 30 of each year, beginning December 30, 2020. The net proceeds from the sale of the 2030 Notes were used for general corporate purposes, including acquisitions.

On September 1, 2020, the Company completed a public offering of \$300.0 aggregate principal amount of 0.45% senior unsecured notes due August 15, 2022 ("2022 Notes"), \$700.0 aggregate principal amount of 1.00% senior unsecured notes due September 15, 2025 ("2025 Notes"), \$700.0 aggregate principal amount of 1.40% senior unsecured notes due September 15, 2027 ("2027 Notes") and \$1,000.0 aggregate principal amount of 1.75% senior unsecured notes due February 15, 2031 ("2031 Notes" and, together with the 2022 Notes, 2025 Notes, and 2027 Notes, the "Notes"). The 2022 Notes and 2031 Notes bear interest at a fixed rate and are payable semi-annually in arrears on February 15 and August 15 of each year, beginning February 15, 2021 and the 2025 Notes and 2027 Notes bear interest at a fixed rate and are payable semi-annually in arrears on March 15 and September 15 of each year, beginning March 15, 2021. The net proceeds from the sale of the Notes, together with cash on hand and borrowings under the Credit Agreement, were used to fund the purchase price of the acquisition of Vertafore, Inc. and related costs.

On August 26, 2019, the Company completed a public offering of \$500.0 aggregate principal amount of 2.35% senior unsecured notes due September 15, 2024 and \$700.0 aggregate principal amount of 2.95% senior unsecured notes due September 15, 2029. The notes bear interest at a fixed rate and are payable semi-annually in arrears on March 15 and September 15 of each year, beginning March 15, 2020. The net proceeds were used to fund a portion of the purchase of iPipeline Holdings, Inc.

On August 28, 2018, the Company completed a public offering of \$700.0 aggregate principal amount of 3.65% senior unsecured

notes due September 15, 2023 and \$800.0 aggregate principal amount of 4.20% senior unsecured notes due September 15, 2028 (the "2018 Offering"). The notes bear interest at a fixed rate and are payable semi-annually in arrears on March 15 and September 15 of each year, beginning March 15, 2019.

On December 19, 2016, the Company completed a public offering of \$500.0 aggregate principal amount of 2.80% senior unsecured notes due December 15, 2021 and \$700.0 aggregate principal amount of 3.80% senior unsecured notes due December 15, 2026. The notes bear interest at a fixed rate and are payable semi-annually in arrears on June 15 and December 15 of each year, beginning June 15, 2017.

On December 7, 2015, the Company completed a public offering of \$600.0 aggregate principal amount of 3.00% senior unsecured notes due December 15, 2020 and \$300.0 aggregate principal amount of 3.85% senior unsecured notes due December 15, 2025. The notes bear interest at a fixed rate and are payable semi-annually in arrears on June 15 and December 15 of each year, beginning June 15, 2016.

On November 21, 2012, the Company completed a public offering of \$500.0 aggregate principal amount of 3.125% senior unsecured notes due November 15, 2022. The notes bear interest at a fixed rate and are payable semi-annually in arrears on May 15 and November 15 of each year, beginning May 15, 2013.

Roper may redeem some or all of these notes at any time or from time to time, at 100% of their principal amount, plus a make-whole premium based on a spread to U.S. Treasury securities.

On November 15, 2021, \$500.0 of 2.800% senior notes due 2021 were redeemed predominantly using cash flows generated from operations.

On November 15, 2020, \$600.0 of 3.000% senior notes due 2020 were redeemed using revolver borrowings from the Credit Agreement.

The Company's senior notes are unsecured senior obligations of the Company and rank equally in right of payment with all of Roper's existing and future unsecured and unsubordinated indebtedness. The notes are effectively subordinated to any of its existing and future secured indebtedness to the extent of the value of the collateral securing such indebtedness. The notes are not guaranteed by any of Roper's subsidiaries and are effectively subordinated to all existing and future indebtedness and other liabilities of Roper's subsidiaries.

Total debt at December 31 consisted of the following:

	2021	2020
Unsecured credit facility	\$ 470.0	\$1,620.0
\$500 2.800% senior notes due 2021	—	500.0
\$500 3.125% senior notes due 2022	500.0	500.0
\$300 0.450% senior notes due 2022	300.0	300.0
\$700 3.650% senior notes due 2023	700.0	700.0
\$500 2.350% senior notes due 2024	500.0	500.0
\$300 3.850% senior notes due 2025	300.0	300.0
\$700 1.000% senior notes due 2025	700.0	700.0
\$700 3.800% senior notes due 2026	700.0	700.0
\$700 1.400% senior notes due 2027	700.0	700.0
\$800 4.200% senior notes due 2028	800.0	800.0
\$700 2.950% senior notes due 2029	700.0	700.0
\$600 2.000% senior notes due 2030	600.0	600.0
\$1,000 1.750% senior notes due 2031	1,000.0	1,000.0
Other	0.3	0.5
Less unamortized debt issuance costs	(48.5)	(59.7)
Total debt	7,921.8	9,560.8
Less current portion	(799.2)	(499.4)
Long-term debt	\$7,122.6	\$9,061.4

The interest rate on the borrowings under the unsecured credit facility is calculated based upon various recognized indices plus a margin as defined in the Credit Agreement. At December 31, 2021, Roper had \$84.9 of outstanding letters of credit.

Future maturities of total debt during each of the next five years ending December 31 and thereafter are as follows:

2022	\$ 800.2
2023	1,170.1
2024	500.0
2025	1,000.0
2026	700.0
Thereafter	3,800.0
Total	\$ 7,970.3

(10) FAIR VALUE

Roper's debt at December 31, 2021 included \$7,500 of fixed-rate senior notes with the following fair values:

\$500	3.125% senior notes due 2022	507
\$300	0.450% senior notes due 2022	300
\$700	3.650% senior notes due 2023	730
\$500	2.350% senior notes due 2024	514
\$300	3.850% senior notes due 2025	323
\$700	1.000% senior notes due 2025	684
\$700	3.800% senior notes due 2026	768
\$700	1.400% senior notes due 2027	680
\$800	4.200% senior notes due 2028	899
\$700	2.950% senior notes due 2029	727
\$600	2.000% senior notes due 2030	578
\$1,000	1.750% senior notes due 2031	941

The fair values of the senior notes are based on the trading prices of the notes, which the Company has determined to be Level 2 in the FASB fair value hierarchy.

(11) RETIREMENT AND OTHER BENEFIT PLANS

Roper maintains four defined contribution retirement plans under the provisions of Section 401(k) of the IRC covering substantially all U.S. employees. Roper partially matches employee contributions. Costs related to all such plans were \$36.4, \$30.0 and \$33.4 for 2021, 2020 and 2019, respectively.

Roper also maintains various defined benefit retirement plans covering employees of non-U.S. and certain U.S. subsidiaries and a plan that supplements certain employees for the contribution ceiling applicable to the Section 401(k) plans. The costs and accumulated benefit obligations associated with each of these plans were not material.

(12) STOCK-BASED COMPENSATION

The Roper Technologies, Inc. 2021 Incentive Plan ("2021 Plan") is a stock-based compensation plan used to grant incentive stock options, nonqualified stock options, restricted stock, stock appreciation rights or equivalent instruments to Roper's employees, officers, directors and consultants. The 2021 Plan was approved by shareholders at the Annual Meeting of Shareholders on June 14, 2021. The 2021 Plan replaces the Roper Technologies, Inc. Amended and Restated 2016 Incentive Plan ("2016 Plan"), and no additional grants will be made from the 2016 Plan. At December 31, 2021, 9,275 shares were available to grant under the 2021 Plan.

Under the Roper Technologies, Inc., Employee Stock Purchase Plan ("ESPP"), employees in the U.S. and Canada are allowed to designate up to 10% of eligible earnings to purchase Roper's common stock at a 10% discount on the lower of the closing price of the stock on the first and last day of each quarterly offering period. Common stock sold to employees pursuant to the stock purchase plan may be either treasury stock, stock purchased on the open market, or newly issued shares.

Stock based compensation expense for the years ended December 31, 2021, 2020 and 2019 included as a component of "Selling, general and administrative expenses" was as follows:

	2021	2020	2019
Stock based compensation	\$136.1	\$117.0	\$101.2
Tax benefit recognized in net earnings	28.6	24.6	21.3

During 2019, in connection with the sale of Gatan, we recognized \$9.6 associated with accelerated vestings which was recognized within "Gain on disposal of businesses" within the Consolidated Statements of Earnings.

Stock Options—Stock options are typically granted at prices not less than 100% of market value of the underlying stock at the date of grant. Stock options typically vest over a weighted average period of 3 years from the grant date and expire 10 years after the grant date. The Company recorded \$45.0, \$38.6, and \$29.9 of compensation expense relating to outstanding options during 2021, 2020 and 2019, respectively, as a component of general and administrative expenses at Corporate.

The Company estimates the fair value of its option awards using the Black-Scholes option valuation model. The stock volatility for each grant is measured using the weighted-average of historical daily price changes of the Company's common stock over

the most recent period equal to the expected life of the grant. The expected term of options granted is derived from historical data to estimate option exercises and employee forfeitures, and represents the period of time that options granted are expected to be outstanding. The risk-free rate for periods within the contractual life of the option is based on the U.S. Treasury yield curve in effect at the time of grant. The weighted-average fair value of options granted in 2021, 2020 and 2019 were calculated using the following weighted-average assumptions:

	2021	2020	2019
Weighted-average fair value (\$)	95.17	63.22	68.05
Risk-free interest rate (%)	0.94	0.81	2.37
Average expected option life (years)	5.61	5.64	5.42
Expected volatility (%)	25.14	20.39	19.22
Expected dividend yield (%)	0.56	0.62	0.58

The following table summarizes the Company's activities with respect to its share-based compensation plans for the years ended December 31, 2021 and 2020:

	Number of shares	Weighted-average exercise price per share	Weighted-average contractual term	Aggregate intrinsic value
Outstanding at December 31, 2019	3.349	\$219.40		
Granted	0.762	333.45		
Exercised	(0.670)	157.85		
Canceled	(0.075)	304.56		
Outstanding at December 31, 2020	3.366	255.32	6.79	\$591.7
Granted	0.516	405.20		
Exercised	(0.537)	195.07		
Canceled	(0.122)	312.97		
Outstanding at December 31, 2021	3.223	287.15	6.61	\$659.9
Exercisable at December 31, 2021	1.480	\$219.68	4.90	\$402.8

The following table summarizes information for stock options outstanding at December 31, 2021:

Exercise price	Outstanding options			Exercisable options	
	Number	Average exercise price	Average remaining life (years)	Number	Average exercise price
\$93.62-\$166.19	0.359	\$141.69	2.4	0.359	\$141.69
\$166.20-\$208.79	0.353	177.69	4.5	0.353	177.69
\$208.80-\$275.58	0.338	236.24	5.9	0.247	223.79
\$275.59-\$279.44	0.447	278.40	6.2	0.264	277.77
\$279.45-\$323.36	0.617	319.40	8.1	0.046	287.89
\$323.37-\$327.91	0.397	326.32	7.2	0.176	326.32
\$327.92-\$398.19	0.204	366.45	7.9	0.035	351.25
\$398.20-\$407.21	0.403	401.27	9.2	—	—
\$407.22-\$491.86	0.105	422.59	9.1	—	—
\$93.62-\$491.86	3.223	\$287.15	6.6	1.480	\$219.68

At December 31, 2021, there was \$56.5 of total unrecognized compensation expense related to nonvested options granted under the Company's share-based compensation plans. That cost is expected to be recognized over a weighted-average period of 1.7 years. The total intrinsic value of options exercised in 2021, 2020 and 2019 was \$138.2, \$155.4 and \$109.4, respectively. Cash received from option exercises under all plans in 2021 and 2020 was \$104.7 and \$105.5, respectively.

Restricted Stock Grants—During 2021 and 2020, the Company granted 0.228 and 0.285 shares, respectively, of restricted stock to certain employee and director participants under its share-based compensation plans. Restricted stock grants generally vest over a period of 1 to 4 years. The Company recorded \$91.1, \$77.5 and \$71.2 of compensation expense related to outstanding shares of restricted stock held by employees and directors during 2021, 2020 and 2019, respectively. A summary of the Company's nonvested shares activity for 2021 and 2020 is as follows:

	Number of shares	Weighted-average grant date fair value
Nonvested at December 31, 2019	0.709	\$ 275.00
Granted	0.285	358.07
Vested	(0.308)	254.02
Forfeited	(0.085)	309.28
Nonvested at December 31, 2020	0.601	\$ 320.36
Granted	0.228	409.36
Vested	(0.294)	308.79
Forfeited	(0.037)	350.53
Nonvested at December 31, 2021	0.498	\$365.79

At December 31, 2021, there was \$83.0 of total unrecognized compensation expense related to nonvested awards granted to both employees and directors under the Company's share-based compensation plans. That cost is expected to be recognized over a weighted-average period of 1.6 years.

Employee Stock Purchase Plan—During 2021, 2020 and 2019, participants of the ESPP purchased 0.040, 0.031 and 0.021 shares, respectively, of Roper's common stock for total consideration of \$15.1, \$10.5, and \$6.8, respectively. All of these shares were purchased from Roper's treasury shares.

(13) CONTINGENCIES

Roper, in the ordinary course of business, is party to various pending or threatened legal actions, including product liability, intellectual property, data privacy and employment practices that, in general, are of a nature consistent with those over the past several years. After analyzing the Company's contingent liabilities on a gross basis and, based upon past experience with resolution of such legal claims and the availability and limits of the primary, excess, and umbrella liability insurance coverages with respect to pending claims, management believes that adequate provision has been made to cover any potential liability not covered by insurance, and that the ultimate liability, if any, arising from these actions should not have a material adverse effect on Roper's consolidated financial position, results of operations or cash flows. However, no assurances can be given in this regard.

Roper's subsidiary, Vertafore, Inc., was named in three putative class actions, two in the U.S. District Court for the Southern District of Texas (Allen, et al. v. Vertafore, Inc., Case 4:20-cv-4139, filed December 4, 2020) and Masciotra, et al. v. Vertafore, Inc. (originally filed on December 8, 2020 as Case 1:20-cv-03603 in the U.S. District Court for the District of Colorado and subsequently transferred), and one in the U.S. District Court for the Northern District of Texas (Mulvey, et al. v. Vertafore, Inc., Case 3:21-cv-00213-E, filed January 31, 2021). In July 2021, the court granted Vertafore's motion to dismiss the Allen Case. Plaintiff has appealed the dismissal to the U.S. Fifth Circuit Court of Appeals. In July 2021, the plaintiff in the Masciotra case voluntarily dismissed his action without prejudice. The Allen case and the Mulvey case each purport to represent approximately 27.7 million individuals who held Texas driver's licenses prior to February 2019. In November 2020, Vertafore announced that as a result of human error, three data files were inadvertently stored in an unsecured external storage service that appears to have been accessed without authorization. The files, which included driver information for licenses issued before February 2019, contained Texas driver license numbers, as well as names, dates of birth, addresses and vehicle registration histories. The files did not contain any Social Security numbers or financial account information. These cases seek recovery under the Driver's Privacy Protection Act, 18 U.S.C. § 2721. Vertafore is vigorously defending the cases. In addition, Roper was advised that the Texas Attorney General is investigating the data event.

Roper's subsidiary, Verathon, Inc. ("Verathon"), is defending a patent infringement action pending in the United States District Court for the Western District of Washington (Berall v. Verathon, Inc., Case No. 2:2021mc00043). Plaintiff claims that video laryngoscopes and certain accessories sold by Verathon from approximately 2006 through 2016 infringe U.S. Patent 5,827,178 (the "'178 Patent"). The complaint seeks an unspecified amount of damages, enhanced damages, attorneys' fees, costs, and pre- and post-judgment interest. Verathon contends that the products at issue do not infringe the '178 Patent and that the '178 Patent is invalid. Verathon is vigorously defending the matter.

Roper or its subsidiaries have been named defendants along with numerous industrial companies in asbestos-related litigation claims in certain U.S. states. No significant resources have been required by Roper to respond to these cases and Roper believes it has valid defenses to such claims and, if required, intends to defend them vigorously. Given the state of these claims, it is not possible to determine the potential liability, if any.

As of December 31, 2021, Roper had \$84.9 of letters of credit issued to guarantee its performance under certain services contracts or to support certain insurance programs and \$659.7 of outstanding surety bonds of which \$634.2 are directly associated with our Transcore business. Certain contracts, primarily those involving public sector customers, require Roper to provide a surety bond as a guarantee of its performance of contractual obligations.

(14) SEGMENT AND GEOGRAPHIC AREA INFORMATION

Our operations are reported in four segments based upon business models and capital deployment strategy and objectives. The segments are: Application Software, Network Software & Systems, Measurement & Analytical Solutions and Process Technologies. The four reportable segments (and businesses within each; including changes due to acquisitions and divestitures) are as follows:

- **Application Software**—Aderant, CBORD, CliniSys, Data Innovations, Deltek, Horizon, IntelliTrans, PowerPlan, Strata, Sunquest, Vertafore
- **Network Software & Systems**—ConstructConnect, DAT, Foundry, Inovonics, iPipeline, iTradeNetwork, Link Logistics, MHA, RF IDEas, SHP, SoftWriters
- **Measurement & Analytical Solutions⁽¹⁾**—Alpha, CIVCO Medical Solutions, Dynisco, FMI, Hansen, Hardy, IPA, Logitech, Neptune, Northern Digital, Struers, Technolog, Uson, Verathon
- **Process Technologies**—AMOT, CCC, Cornell, FTI, Metrix, PAC, Roper Pump, Viatran

⁽¹⁾ The Measurement & Analytical Solutions segment includes the results of the divestitures completed in 2019 through the transaction date for (i) the Imaging businesses, sold to Teledyne on February 5, 2019 and (ii) Gatan sold to AMETEK on October 29, 2019.

There were no material transactions between Roper's reportable segments during 2021, 2020 and 2019. Sales between geographic areas are primarily of finished products and are accounted for at prices intended to represent third-party prices. Operating profit by reportable segment and by geographic area is defined as net revenues less operating costs and expenses. These costs and expenses do not include unallocated corporate administrative expenses or non-cash impairments. Items below income from operations on Roper's Consolidated Statements of Earnings are not allocated to reportable segments.

Operating assets are those assets used primarily in the operations of each reportable segment or geographic area. Corporate assets are principally comprised of cash and cash equivalents, deferred tax assets, recoverable insurance claims, deferred compensation assets and property and equipment.

Selected financial information by reportable segment for 2021, 2020 and 2019 follows:

	Application Software	Network Software & Systems	Measurement & Analytical Solutions	Process Technologies	Corporate	Total
2021						
Net revenues	\$ 2,380.6	\$ 1,338.4	\$ 1,559.6	\$ 499.2	\$ —	\$ 5,777.8
Operating profit ⁽¹⁾	635.9	511.6	482.6	152.9	(203.3)	1,579.7
Assets:						
Operating assets	577.6	243.9	346.9	172.3	15.4	1,356.1
Intangible assets, net	13,498.4	5,551.2	1,356.7	276.7	—	20,683.0
Other	205.7	50.4	100.9	81.9	447.3	886.2
Total⁽²⁾						22,925.3
Capital expenditures	18.0	6.0	6.4	1.4	1.1	32.9
Capitalized software expenditures	26.3	3.4	—	—	—	29.7
Depreciation and other amortization	421.0	171.8	33.3	7.7	0.3	634.1
2020						
Net revenues	\$ 1,799.9	\$ 1,173.7	\$ 1,425.6	\$ 455.0	\$ —	\$ 4,854.2
Operating profit	468.7	413.9	463.3	115.3	(187.7)	1,273.5
Assets:						
Operating assets	526.6	217.3	328.6	148.9	3.9	1,225.3
Intangible assets, net	13,844.6	5,621.6	1,383.9	284.1	—	21,134.2
Other	173.1	48.4	107.6	67.3	423.1	819.5
Total⁽²⁾						23,179.0
Capital expenditures	12.9	6.2	7.9	1.1	0.2	28.3
Capitalized software expenditures	16.3	1.4	—	—	—	17.7
Depreciation and other amortization	296.9	171.9	34.1	9.6	0.4	512.9
2019						
Net revenues	\$ 1,588.0	\$ 1,004.2	\$ 1,544.3	\$ 591.2	\$ —	\$ 4,727.7
Operating profit	405.4	389.1	491.4	211.4	(169.0)	1,328.3
Assets:						
Operating assets	382.2	206.0	332.9	181.4	4.3	1,106.8
Intangible assets, net	7,833.6	5,505.5	1,390.5	285.6	—	15,015.2
Other	168.5	48.7	117.9	65.5	773.8	1,174.4
Total⁽²⁾						17,296.4
Capital expenditures	17.4	6.1	17.1	2.2	0.2	43.0
Capitalized software expenditures	9.7	0.5	—	—	—	10.2
Depreciation and other amortization	230.2	127.1	39.7	11.2	0.6	408.8

(1) Operating profit excludes \$99.5 of non-cash impairment charges.

(2) Total excludes assets held for sale of \$788.6, \$845.8 and \$812.5 associated with the TransCore, Zetec and CIVCO Radiotherapy businesses, as applicable, on December 31, 2021, 2020 and 2019, respectively.

Summarized data for Roper's U.S. and foreign operations (principally in Canada, Europe and Asia) for 2021, 2020 and 2019, based upon the country of origin of the Roper entity making the sale, was as follows:

	United States	Non-U.S.	Eliminations	Total
2021				
Sales to unaffiliated customers	\$4,630.8	\$1,147.0	\$ —	\$5,777.8
Sales between geographic areas	122.7	126.4	(249.1)	—
Net revenues	\$4,753.5	\$1,273.4	\$(249.1)	\$5,777.8
Long-lived assets	\$ 178.5	\$ 29.9	\$ —	\$ 208.4
2020				
Sales to unaffiliated customers	\$3,848.5	\$1,005.7	\$ —	\$4,854.2
Sales between geographic areas	122.8	162.1	(284.9)	—
Net revenues	\$3,971.3	\$1,167.8	\$(284.9)	\$4,854.2
Long-lived assets	\$ 171.6	\$ 32.7	\$ —	\$ 204.3
2019				
Sales to unaffiliated customers	\$3,730.6	\$997.1	\$ —	\$4,727.7
Sales between geographic areas	123.0	139.0	(262.0)	—
Net revenues	\$3,853.6	\$1,136.1	\$(262.0)	\$4,727.7
Long-lived assets	\$ 141.9	\$ 32.8	\$ —	\$ 174.7

Export sales from the U.S. during the years ended December 31, 2021, 2020 and 2019 were \$336.2, \$311.6 and \$444.7, respectively. In the year ended December 31, 2021, these exports were shipped primarily to Asia (28%), Canada (28%), Europe (21%) and other (23%).

Sales to customers outside the U.S. accounted for a significant portion of Roper's revenues. Sales are attributed to geographic areas based upon the location where the product is ultimately shipped. Roper's net revenues for the years ended December 31, 2021, 2020 and 2019 are shown below by region, except for Canada, which is presented separately:

	Application Software	Network Software & Systems	Measurement & Analytical Solutions	Process Technologies	Total
2021					
Canada	\$ 51.2	\$ 86.7	\$ 69.5	\$ 16.8	\$ 224.2
Europe	248.2	71.1	284.9	84.4	688.6
Asia	3.7	13.6	135.1	85.2	237.6
Rest of the world	37.1	10.5	56.4	87.8	191.8
Total	\$340.2	\$181.9	\$545.9	\$274.2	\$1,342.2
2020					
Canada	\$ 43.4	\$ 75.6	\$ 71.1	\$ 17.2	\$ 207.3
Europe	205.5	60.2	250.7	87.2	603.6
Asia	3.3	13.1	116.0	74.0	206.4
Rest of the world	37.7	10.9	58.9	71.8	179.3
Total	\$289.9	\$159.8	\$496.7	\$250.2	\$1,196.6
2019					
Canada	\$ 41.0	\$ 70.1	\$ 80.7	\$ 22.2	\$ 214.0
Europe	188.8	35.7	299.7	101.1	625.3
Asia	3.5	12.4	177.6	87.1	280.6
Rest of the world	34.4	8.2	55.4	97.8	195.8
Total	\$267.7	\$126.4	\$613.4	\$308.2	\$1,315.7

(15) CONCENTRATION OF RISK

Financial instruments which potentially subject the Company to credit risk consist primarily of cash and cash equivalents, trade receivables and unbilled receivables.

The Company maintains cash and cash equivalents with various major financial institutions around the world. The Company limits the amount of credit exposure with any one financial institution and believes that no significant concentration of credit risk exists with respect to cash and cash equivalent balances.

Trade and unbilled receivables subject the Company to the potential for credit risk with customers. To reduce credit risk, the Company performs ongoing evaluations of its customers' financial condition.

(16) CONTRACT BALANCES

Contract balances at December 31 are set forth in the following table:

Balance Sheet Account	2021	2020	Change
Unbilled receivables	\$ 95.3	\$ 72.8	\$ 22.5
Contract liabilities-current ⁽¹⁾	(1,130.2)	(990.3)	(139.9)
Deferred revenue-non-current	(75.3)	(42.7)	(32.6)
Net contract assets/(liabilities)	\$(1,110.2)	\$(960.2)	\$(150.0)

(1) Consists primarily of "Deferred revenue."

The change in our net contract assets/(liabilities) from December 31, 2020 to December 31, 2021 was due primarily to the timing of payments and invoicing relating to Software-as-a-Service ("SaaS") and post contract support ("PCS") renewals, partially offset by the increase in unbilled receivables due to the timing of invoicing related to software milestone billings associated with multi-year term license renewals and software implementations.

Revenue recognized during the year ended December 31, 2021 and 2020 that was included in the contract liability balance on December 31, 2020 and 2019 was \$951.3 and \$794.3, respectively. In order to determine revenues recognized in the period from contract liabilities, we allocate revenue to the individual deferred revenue or BIE balance outstanding at the beginning of the year until the revenue exceeds that balance.

Impairment losses recognized on our accounts receivable and unbilled receivables were immaterial in the each of years ended December 31, 2021, 2020 and 2019, respectively.

(17) LEASES

The Company's operating leases are primarily for real property in support of our business operations. Although many of our leases contain renewal options, we generally are not reasonably certain to exercise these options at the commencement date. Accordingly, renewal options are generally not included in the lease term for determining the ROU asset and lease liability at commencement. Variable lease payments generally depend on an inflation-based index and such payments are not included in the original estimate of the lease liability. These variable lease payments are not material.

For the years ended December 31, 2021, 2020 and 2019, the Company recognized \$64.6, \$58.0 and \$56.6 in operating lease expense, respectively.

The following table presents the supplemental cash flow information related to the Company's operating leases for the year ended December 31:

	2021	2020
Operating cash flows used for operating leases	\$ 64.4	\$ 59.7
Right-of-use assets obtained in exchange for operating lease obligations	41.6	58.1

The following table presents the lease balances within the Consolidated Balance Sheet related to the Company's operating leases as of December 31:

Lease Assets and Liabilities	Balance Sheet Account	2021	2020
ASSETS:			
Operating lease ROU assets	Other assets	\$ 221.0	\$ 232.6
LIABILITIES:			
Current operating lease liabilities	Other accrued liabilities	51.4	56.8
Operating lease liabilities	Other liabilities	180.9	192.8
Total operating lease liabilities		\$ 232.3	\$ 249.6

Future minimum lease payments under non-cancellable leases were as follows:

2022	\$ 56.4
2023	45.1
2024	38.9
2025	32.8
2026	25.2
Thereafter	52.7
Total operating lease payments	251.1
Less: Imputed interest	18.8
Total operating lease liabilities	\$232.3
Weighted average remaining lease term—operating leases (years)	6
Weighted average discount rate (%)	2.7

(18) QUARTERLY FINANCIAL DATA (UNAUDITED)

As described in Note 3, Roper signed definitive agreements to divest the TransCore, Zetec and CIVCO Radiotherapy businesses. Roper has completed the divestitures of Zetec and CIVCO Radiotherapy, in the first quarter of 2022 and fourth quarter of 2021, respectively, and expects the TransCore transaction to close in the first quarter of 2022. Accordingly, the unaudited interim financial information below has been adjusted to incorporate the presentation of discontinued operations.

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
2021				
Net revenues	\$1,376.1	\$1,426.6	\$1,462.8	\$1,512.3
Gross profit	936.0	967.3	996.1	1,018.0
Income from operations	374.6	381.5	403.5	320.6
Net earnings from continuing operations	269.9	253.0	259.8	199.9
Net earnings from discontinued operations	19.1	33.3	29.7	87.9
Net earnings	289.0	286.3	289.5	287.8
Net earnings per share from continuing operations:				
Basic	\$ 2.57	\$ 2.40	\$ 2.47	\$ 1.90
Diluted	\$ 2.55	\$ 2.38	\$ 2.43	\$ 1.87
Net earnings per share from discontinued operations:				
Basic	\$ 0.18	\$ 0.32	\$ 0.28	\$ 0.83
Diluted	\$ 0.18	\$ 0.31	\$ 0.28	\$ 0.83
Net earnings per share:				
Basic	\$ 2.75	\$ 2.72	\$ 2.75	\$ 2.73
Diluted	\$ 2.73	\$ 2.69	\$ 2.71	\$ 2.70
2020				
Net revenues	\$1,182.6	\$1,137.8	\$1,198.2	\$1,335.6
Gross profit	787.5	772.5	809.9	900.9
Income from operations	308.4	291.6	330.5	343.0
Net earnings from continuing operations	209.5	184.0	207.0	225.0
Net earnings from discontinued operations	30.8	35.2	27.4	30.8
Net earnings	240.3	219.2	234.4	255.8
Net earnings per share from continuing operations:				
Basic	\$ 2.01	\$ 1.76	\$ 1.98	\$ 2.15
Diluted	\$ 1.99	\$ 1.74	\$ 1.95	\$ 2.12
Net earnings per share from discontinued operations:				
Basic	\$ 0.29	\$ 0.34	\$ 0.26	\$ 0.29
Diluted	\$ 0.29	\$ 0.34	\$ 0.26	\$ 0.29
Net earnings per share:				
Basic	\$ 2.30	\$ 2.10	\$ 2.24	\$ 2.44
Diluted	\$ 2.28	\$ 2.08	\$ 2.21	\$ 2.41

The sum of the four quarters may not agree with the total for the year due to rounding.

ROPER TECHNOLOGIES, INC. AND SUBSIDIARIES

SCHEDULE II – CONSOLIDATED VALUATION AND QUALIFYING ACCOUNTS

Years ended December 31, 2021, 2020 and 2019

(in millions)

	Balance at beginning of year	Additions charged to costs and expenses	Deductions	Other	Balance at end of year
Allowance for doubtful accounts and sales allowances					
2021	\$28.1	\$1.5	\$(10.3)	\$ 0.4	\$19.7
2020	19.2	11.7	(10.2)	7.4	28.1
2019	20.3	8.2	(7.8)	(1.5)	19.2
Reserve for inventory obsolescence					
2021	\$36.2	\$3.8	\$ (2.8)	\$(1.1)	\$36.1
2020	28.5	9.0	(2.6)	1.3	36.2
2019	25.7	5.6	(2.7)	(0.1)	28.5

Deductions from the allowance for doubtful accounts represented the net write-off of uncollectible accounts receivable.

Deductions from the inventory obsolescence reserve represented the disposal of obsolete items.

Other included the allowance for doubtful accounts and reserve for inventory obsolescence of acquired businesses, the effects of foreign currency translation adjustments for those companies whose functional currency was not the U.S. dollar, reclassifications as held for sale and other.

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

None

ITEM 9A. | CONTROLS AND PROCEDURES

MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Our management is responsible for establishing and maintaining adequate control over financial reporting, as such term is defined in Exchange Act Rules 13a-15(f) and 15d-15(f). Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in *Internal Control-Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on our evaluation under the framework in Internal Control-Integrated Framework, our management concluded that our internal control over financial reporting was effective as of December 31, 2021. Our internal control over financial reporting as of December 31, 2021 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which is included herein.

Our management excluded the seven acquisitions completed during 2021 from its assessment of internal control over financial reporting as of December 31, 2021. These acquisitions are wholly-owned subsidiaries whose total assets (excluding goodwill and other identifiable intangibles, which are included within the scope of the assessment) represent less than 1%, and whose aggregate total revenues represent less than 1%, of the related Consolidated Financial Statement amounts as of and for the year ended December 31, 2021.

EVALUATION OF DISCLOSURE CONTROLS AND PROCEDURES

As required by SEC rules, we have evaluated the effectiveness of the design and operation of our disclosure controls and procedures as of the end of the period covered by this report. This evaluation was carried out under the supervision and with the participation of our management, including our principal executive officer and principal financial officer. Based on this evaluation, we have concluded that our disclosure controls and procedures were effective as of December 31, 2021.

Disclosure controls and procedures are our controls and other procedures designed to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act are accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure.

CHANGES IN INTERNAL CONTROL OVER FINANCIAL REPORTING

There was no change in our internal control over financial reporting that occurred during the fourth quarter of 2021 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. | OTHER INFORMATION

None

ITEM 9C. | DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

None

PART III

Except as otherwise indicated, the following information required by the Instructions to Form 10-K is incorporated herein by reference from the sections of the Roper Proxy Statement for the annual meeting of shareholders ("2022 Proxy Statement"), which we anticipate filing with the SEC within 120 days after the end of the fiscal year to which this report relates, as specified below:

ITEM 10. | DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information about our directors required by this *Item 10 - Directors, Executive Officers and Corporate Governance* is contained under the caption "Proposal 1 - Election of Directors" is contained in the 2022 Proxy Statement.

Information regarding our audit committee, executive officers and compliance with Section 16(a) of the Exchange Act is contained in the 2022 Proxy Statement under the captions "Corporate Governance" and "Board Committees and Meetings."

Information required under this Item with respect to Executive Officers of the Company is included as a supplemental item at the end of Part I of this report.

Code of Ethics

Roper has a code of ethics for directors, officers (including the Company's principal executive officer, principal financial officer and principal accounting officer) and employees. The Code of Ethics is available on the Company's website at <https://www.ropertech.com/code-of-ethics>. The Company posts any amendments to or waivers of its Code of Ethics (to the extent applicable to the Company's directors or executive officers) at the same location on the Company's website. In addition, copies of the Code of Ethics may be obtained in print without charge upon written request by any stockholder to the Company's Corporate Secretary at 6901 Professional Parkway, Suite 200, Sarasota, Florida 34240.

ITEM 11. | EXECUTIVE COMPENSATION

The information required by this *Item 11-Executive Compensation* is contained in the 2022 Proxy Statement under the captions "Compensation Discussion and Analysis," "Executive Compensation," "Director Compensation," "Compensation Committee Report," and "Compensation Committee Interlocks and Insider Participation."

ITEM 12. | SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

(All share amounts are in millions)

Other than as set forth below, the information required by this *Item 12-Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters* and not otherwise set forth below is contained in the 2022 Proxy Statement under the caption "Beneficial Ownership."

SECURITIES AUTHORIZED FOR ISSUANCE UNDER EQUITY COMPENSATION PLANS

The following table provides information as of December 31, 2021 regarding compensation plans (including individual compensation arrangements) under which our equity securities are authorized for issuance.

Plan Category	(a) Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights	(b) Weighted- Average Exercise Price of Outstanding Options, Warrants and Rights	(c) Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a))
Equity Compensation Plans			
Approved by Shareholders ⁽¹⁾			
Stock options	3.223	\$287.15	
Restricted stock awards ⁽²⁾	0.498	—	
Subtotal	3.721		9.275
Equity Compensation Plans Not Approved by Shareholders	—	—	—
Total	3.721	\$ —	9.275

(1) Consists of the Amended and Restated 2006 Incentive Plan, the 2016 Incentive Plan and the 2021 Incentive Plan. No additional awards may be granted under the 2006 Incentive Plan or the 2016 Incentive Plan.

(2) The weighted-average exercise price is not applicable to restricted stock awards.

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

The information required by this *Item 13—Certain Relationships and Related Transactions, and Director Independence* is contained in the 2022 Proxy Statement under the captions “Director Independence” and “Review and Approval of Related Person Transactions.”

ITEM 14. | PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this *Item 14—Principal Accounting Fees and Services* is contained in the 2022 Proxy Statement under the captions “Proposal 3 - Ratification of the Appointment of PricewaterhouseCoopers LLP as our Independent Registered Public Accounting Firm for the Year Ending December 31, 2022,” and “Independent Public Accountants Fees.”

PART IV

ITEM 15. | EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

- (a) The following documents are filed as a part of this Annual Report.
- (1) Consolidated Financial Statements: The following Consolidated Financial Statements are included in Part II, Item 8 of this report.
- Consolidated Balance Sheets as of December 31, 2021 and 2020
 - Consolidated Statements of Earnings for the Years ended December 31, 2021, 2020 and 2019
 - Consolidated Statements of Comprehensive Income for the Years ended December 31, 2021, 2020 and 2019
 - Consolidated Statements of Stockholders' Equity for the Years ended December 31, 2021, 2020 and 2019
 - Consolidated Statements of Cash Flows for the Years ended December 31, 2021, 2020 and 2019
 - Notes to Consolidated Financial Statements
- (2) Consolidated Valuation and Qualifying Accounts for the Years ended December 31, 2021, 2020 and 2019
- (b) Exhibits

Exhibit No.	Description of Exhibit
^(a) 2.1	Membership Interests Purchase Agreement by and Between TransCore Holdings, Inc., as Seller, and ST Engineering Urban Solutions USA Inc, as Buyer, and, solely for the purposes of certain provisions, Roper Technologies, Inc., as Seller Parent, and Singapore Technologies Engineering LTD, as Parent.
^(b) 3.1	Restated Certificate of Incorporation as amended through April 24, 2015.
^(c) 3.2	Amended and Restated By-Laws.
^(d) 4.1	Indenture between Registrant and Wells Fargo Bank, dated as of August 4, 2008.
^(e) 4.2	Indenture between Registrant and Wells Fargo Bank, dated as of November 26, 2018.
^(f) 4.3	Form of Note.
^(g) 4.4	Form of 3.650% Senior Notes due 2023.
4.5	Form of 4.200% Senior Notes due 2028 (included in Exhibit 4.4).
^(h) 4.6	Form of 3.125% Senior Notes due 2022.
⁽ⁱ⁾ 4.7	Form of 3.850% Senior Notes due 2025.
^(j) 4.8	Form of 3.800% Senior Notes due 2026.
^(k) 4.9	Form of 2.350% Senior Notes due 2024.
4.10	Form of 2.950% Senior Notes due 2029 (included in Exhibit 4.9).
^(l) 4.11	Form of 2.000% Senior Notes due 2030.
^(m) 4.12	Form of 0.450% Senior Notes due 2022.
4.13	Form of 1.000% Senior Notes due 2025 (included in Exhibit 4.12).
4.14	Form of 1.400% Senior Notes due 2027 (included in Exhibit 4.12).
4.15	Form of 1.750% Senior Notes due 2031 (included in Exhibit 4.12).
4.16	Description of Registrant's Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934, filed herewith.
⁽ⁿ⁾ 10.1	Employee Stock Purchase Plan, as amended and restated. †
^(o) 10.2	Non-Qualified Retirement Plan, as amended. †
^(p) 10.3	Credit Agreement, dated as of September 2, 2020 among Registrant, the foreign subsidiary borrowers from time to time party thereto, the financial institutions party thereto, JPMorgan Chase Bank, N.A., as administrative agent, Wells Fargo Bank, N.A. and Bank of America, N.A. as syndication agents, and MUFG, Ltd., Mizuho Bank, Ltd., PNC Bank, National Association, Truist Bank and TD Bank, N.A. as co-documentation agents.
^(q) 10.4	Amended and Restated 2006 Incentive Plan. †
^(r) 10.5	Form of Restricted Stock Agreement for Employees under the 2006 Plan. †

- ^(r)10.6 Form of Non-Statutory Stock Option Agreement under the 2006 Plan. †
 - ^(s)10.7 Offer letter to John K. Stipancich. †
 - ^(t)10.8 Form of director and officer indemnification agreement. †
 - ^(u)10.9 2016 Incentive Plan. †
 - ^(v)10.10 Amendment No. 1 to the 2016 Incentive Plan.†
 - ^(w)10.11 Form of Cash Settled Restricted Stock Unit Award Agreement for Non-US Employees, under the 2016 Incentive Plan. †
 - ^(x)10.12 Form of Non-Statutory Stock Option Agreement, under the 2016 Incentive Plan.†
 - ^(y)10.13 Form of Restricted Stock Award Agreement, under the 2016 Incentive Plan.†
 - ^(z)10.14 Form of Performance Based Restricted Stock Award Agreement, under the 2016 Incentive Plan.†
 - ^(aa)10.15 Offer Letter to Neil Hunn. †
 - ^(bb)10.16 Long-Term Incentive Opportunity Agreement for Neil Hunn. †
 - ^(cc)10.17 Retirement Agreement and General Release, dated February 1, 2019, by and between the Company and Paul Soni. †
 - ^(dd)10.18 2021 Incentive Plan. †
 - ^(ee)10.19 Form of Performance Based Restricted Stock Award Agreement, under the 2021 Incentive Plan.†
 - ^(ee)10.20 Form of Stock Option Agreement, under the 2021 Incentive Plan.†
 - ^(ee)10.21 Form of Restricted Stock Award Agreement, under the 2021 Incentive Plan.†
 - ^(ff)10.22 Roper Technologies, Inc. Director Compensation Plan. †
 - ^(gg)10.23 Form of Non-Employee Director Restricted Stock Unit Award Agreement under the 2021 Incentive Plan (included in Exhibit 10.22).
 - ^(hh)10.24 Form of Non-Employee Director Restricted Stock Award Agreement under the 2021 Incentive Plan (included in Exhibit 10.22).
 - 21.1 List of Subsidiaries, filed herewith.
 - 23.1 Consent of Independent Registered Public Accountants, filed herewith.
 - 31.1 Rule 13a-14(a)/15d-14(a) Certification of Chief Executive Officer, filed herewith.
 - 31.2 Rule 13a-14(a)/15d-14(a) Certification of Chief Financial Officer, filed herewith.
 - 32.1 Section 1350 Certification of Chief Executive and Chief Financial Officers, filed herewith.
 - 101.INS XBRL Instance Document, furnished herewith.
 - 101.SCH XBRL Taxonomy Extension Schema Document, furnished herewith.
 - 101.CAL XBRL Taxonomy Extension Calculation Linkbase Document, furnished herewith.
 - 101.DEF XBRL Taxonomy Extension Definition Linkbase Document, furnished herewith.
 - 101.LAB XBRL Taxonomy Extension Label Linkbase Document, furnished herewith.
 - 101.PRE XBRL Taxonomy Extension Presentation Linkbase Document, furnished herewith.
 - 104 Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101).
- ^{a)} Incorporated herein by reference to Exhibit 2.1 to the Company's Quarterly Report on Form 10-Q filed on November 4, 2021 (file no. 1-12273).
- ^{b)} Incorporated herein by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed on April 24, 2015 (file no. 1-12273).
- ^{c)} Incorporated herein by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed June 14, 2021 (file no. 1-12273).
- ^{d)} Incorporated herein by reference to Exhibit 4.2 to the Company's Quarterly Report on Form 10-Q filed on November 7, 2008 (file no. 1-12273).
- ^{e)} Incorporated herein by reference to Exhibit 4.1 to the Registration Statement on Form S-3/ASR filed November 26, 2018 (file no. 333-228532).

- ^{f)} Incorporated herein by reference to Exhibit 4.2 to the Registration Statement on Form S-3/ASR filed November 25, 2015 (file no. 333-208200).
- ^{g)} Incorporated herein by reference to Exhibit 4.1 to the Roper Technologies, Inc. Current Report on Form 8-K filed August 28, 2018 (file no. 1-12273).
- ^{h)} Incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed November 21, 2012 (file no. 1-12273).
- ⁱ⁾ Incorporated herein by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed December 7, 2015 (file no. 1-12273).
- ^{j)} Incorporated herein by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed December 19, 2016 (file no. 1-12273).
- ^{k)} Incorporated herein by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed August 26, 2019 (file no. 1-12273).
- ^{l)} Incorporated herein by reference to Exhibit 4.1 to the Roper Technologies, Inc. Current Report on Form 8-K filed June 22, 2020 (file no. 1-12273).
- ^{m)} Incorporated herein by reference to Exhibit 4.1 to the Roper Technologies, Inc. Current Report on Form 8-K filed September 1, 2020 (file no. 1-12273).
- ⁿ⁾ Incorporated herein by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed August 5, 2020. (file no. 1-12273).
- ^{o)} Incorporated herein by reference to Exhibit 10.06 to the Company's Annual Report on Form 10-K filed March 2, 2009 (file no. 1-12273).
- ^{p)} Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed September 3, 2020 (file no. 1-12273).
- ^{q)} Incorporated herein by reference to Appendix A to the Company's Definitive Proxy Statement on Schedule 14A filed April 30, 2012 (file no. 1-12273).
- ^{r)} Incorporated herein by reference to Exhibits 10.3 and 10.5 to the Company's Current Report on Form 8-K filed December 6, 2006 (file no. 1-12273).
- ^{s)} Incorporated herein by reference to Exhibit 10.17 to the Company's Annual Report on Form 10-K filed on February 27, 2017 (file no. 1-12273).
- ^{t)} Incorporated herein by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q filed November 5, 2018 (file no. 1-12273).
- ^{u)} Incorporated by reference to Appendix B to the Company's Definitive Proxy Statement on Schedule 14A filed April 26, 2016 (file no. 1-12273).
- ^{v)} Incorporated herein by reference to Exhibit 10.20 to the Company's Annual Report on Form 10-K filed on February 27, 2017 (file no. 1-12273).
- ^{w)} Incorporated herein by reference to Exhibit 10.21 to the Company's Annual Report on Form 10-K filed on February 27, 2017 (file no. 1-12273).
- ^{x)} Incorporated herein by reference to Exhibit 10.16 to the Company's Annual Report on Form 10-K filed on February 25, 2019 (file no. 1-12273).
- ^{y)} Incorporated herein by reference to Exhibit 10.17 to the Company's Annual Report on Form 10-K filed on February 25, 2019 (file no. 1-12273).
- ^{z)} Incorporated herein by reference to Exhibit 10.18 to the Company's Annual Report on Form 10-K filed on February 25, 2019 (file no. 1-12273).
- ^{aa)} Incorporated herein by reference to Exhibit 10.22 to the Company's Annual Report on Form 10-K filed on February 23, 2018 (file no. 1-12273).
- ^{bb)} Incorporated herein by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed November 25, 2019 (file no. 1-12273).
- ^{cc)} Incorporated herein by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed on February 1, 2019 (file no. 1-12273).
- ^{dd)} Incorporated herein by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed June 14, 2021 (file no. 1-12273).
- ^{ee)} Incorporated herein by reference to Exhibit 10.2, 10.3 and 10.4 to the Company's Current Report on Form 8-K filed June 14,

2021 (file no. 1-12273).

^{ff}) Incorporated herein by reference to Exhibit 10.5 to the Company's Quarterly Report on Form 10-Q filed on August 5, 2021 (file no. 1-12273).

^{gg}) Incorporated herein by reference to Exhibit 10.6 to the Company's Quarterly Report on Form 10-Q filed on August 5, 2021 (file no. 1-12273).

^{hh}) Incorporated herein by reference to Exhibit 10.7 to the Company's Quarterly Report on Form 10-Q filed on August 5, 2021 (file no. 1-12273).

† Management contract or compensatory plan or arrangement.

ITEM 16. | FORM 10-K SUMMARY

None

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, Roper has duly caused this Report to be signed on its behalf by the undersigned, therewith duly authorized.

ROPER TECHNOLOGIES, INC. (Registrant)

By: /s/ L. Neil Hunn

L. Neil Hunn, President and Chief Executive Officer

February 22, 2022

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

/s/ L. NEIL HUNN

L. Neil Hunn

President and Chief Executive Officer
(Principal Executive Officer)

February 22, 2022

/s/ ROBERT C. CRISCI

Robert C. Crisci

Executive Vice President and
Chief Financial Officer
(Principal Financial Officer)

February 22, 2022

/s/ JASON P. CONLEY

Jason P. Conley

Vice President and Chief
Accounting Officer
(Principal Accounting Officer)

February 22, 2022

/s/ AMY WOODS BRINKLEY

Amy Woods Brinkley

Chair of the Board of Directors

February 22, 2022

/s/ SHELLYE L. ARCHAMBEAU

Shellye L. Archambeau

Director

February 22, 2022

/s/ IRENE M. ESTEVES

Irene M. Esteves

Director

February 22, 2022

/s/ JOHN F. FORT, III

John F. Fort, III

Director

February 22, 2022

/s/ ROBERT D. JOHNSON

Robert D. Johnson

Director

February 22, 2022

/s/ THOMAS P. JOYCE, JR.

Thomas P. Joyce, Jr.

Director

February 22, 2022

/s/ LAURA G. THATCHER

Laura G. Thatcher

Director

February 22, 2022

/s/ RICHARD F. WALLMAN

Richard F. Wallman

Director

February 22, 2022

/s/ CHRISTOPHER WRIGHT

Christopher Wright

Director

February 22, 2022

APPENDIX — RECONCILIATIONS

ADJUSTED REVENUE, GROSS PROFIT AND EBITDA RECONCILIATION (\$M)

	As Reported		Continuing Operations			
	FY 2006	FY 2013	FY 2019	FY 2020	FY 2021	V%
Adjusted Revenue Reconciliation						
GAAP Revenue	\$1,701	\$3,238	\$4,728	\$4,854	\$5,778	19%
Purchase accounting adjustment to acquired deferred revenue and receivables	—	33	11	12	1	
Adjusted Revenue	\$1,701	\$3,272	\$4,738	\$4,866	\$5,779	19%
Components of Adjusted Revenue Growth						
Organic						9%
Acquisitions/Divestitures						9%
Foreign Exchange						1%
Total Adjusted Revenue Growth						19%
Adjusted Gross Profit Reconciliation						
GAAP Gross Profit	\$ 861	\$1,883	\$3,140	\$3,271	\$3,917	
Purchase accounting adjustment to acquired deferred revenue and receivables	—	33	11	12	1	
Adjusted Gross Profit	\$ 861	\$1,916	\$3,151	\$3,283	\$3,918	19%
Adjusted Gross Margin	50.6%	58.6%	66.5%	67.5%	67.8%	+30 bps
Adjusted EBITDA Reconciliation						
GAAP Net Earnings	\$ 193	\$ 538	\$1,640	\$ 825	\$ 983	
Taxes	100	216	417	226	288	
Interest Expense	45	88	186	218	234	
Depreciation	30	38	43	47	50	
Amortization	52	151	366	466	584	
EBITDA	\$ 420	\$1,031	\$2,652	\$1,783	\$2,139	20%
Purchase accounting adjustment to acquired deferred revenue, receivables, and commission expense	—	33	10	10	(5)	
Impairment related to merger of CliniSys and Sunquest	—	—	—	—	100	
Restructuring charge associated with certain Process Technologies businesses	—	—	—	14	—	
Transaction-related expenses for completed acquisitions	—	—	6	9	—	
Gain on sale related to minority investment in Sedaru	—	—	—	—	(28)	
Gain on sale of Gatan and Scientific Imaging businesses	—	—	(921)	—	—	
Hansen special charge	—	9	—	—	—	
Adjusted EBITDA	\$ 420	\$1,074	\$1,748	\$1,815	\$2,206	22%
% of Adjusted Revenue	24.7%	32.8%	36.9%	37.3%	38.2%	+90 bps

ADJUSTED CASH FLOW RECONCILIATION (\$M)

	Continuing Operations			
	FY 2019	FY 2020	FY 2021	V%
Operating Cash Flow	\$1,331	\$1,368	\$1,866	36%
Cash taxes paid on sale of Gatan and Scientific Imaging businesses	39	192	—	
Adjusted Operating Cash Flow	\$1,371	\$1,560	\$1,866	20%
Capital Expenditures	(43)	(28)	(33)	
Capitalized Software Expenditures	(10)	(18)	(30)	
Adjusted Free Cash Flow	\$1,318	\$1,514	\$1,804	19%

Note: 2006 and 2013 presented on a consolidated basis (as reported); 2019, 2020, and 2021 presented on a Continuing Operations basis

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BOARD OF DIRECTORS



Left to right: Thomas P. Joyce, Jr., Irene M. Esteves, Richard F. Wallman, Laura G. Thatcher, Robert D. Johnson, Shellye L. Archambeau, John F. Fort III, L. Neil Hunn, Amy Woods Brinkley, Christopher Wright

CORPORATE INFORMATION

SHAREHOLDER INFORMATION

Ticker Symbol: ROP

Roper's common stock is listed on the New York Stock Exchange with options trading conducted on the Chicago Board Options Exchange.

INVESTOR RELATIONS

Roper Technologies, Inc.
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Sarasota, Florida 34240
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Investor-relations@ropertech.com

TRANSFER AGENT

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462 South 4th Street, Suite 1600
Louisville, KY 40202
+1 800 736 3001

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

PricewaterhouseCoopers LLC

Roper

TECHNOLOGIES

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