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, 2020

☐ **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 incorporation or organization)	(I.R.S. Employer Identification No.)

6901 Professional Parkway East, 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, 2020, the aggregate market value of the voting and non-voting common stock held by non-affiliates of the registrant was: $40.4 billion.

Number of shares of registrant's Common Stock outstanding as of February 12, 2021: 104,939,597.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's Proxy Statement to be furnished to Stockholders in connection with its 2021 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.

ROPER TECHNOLOGIES, INC.

FORM 10-K FOR THE FISCAL YEAR ENDED DECEMBER 31, 2020

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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 the effects of the COVID-19 pandemic on our business, operations, financial results and liquidity, including the duration and magnitude of such effects, which will depend on numerous evolving factors that we cannot accurately predict or assess, including: the duration and scope of the pandemic generally and in the geographical markets that we serve; the 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 customers, suppliers, and business partners, and how quickly economies and demand for our products and services recover following the pandemic.

Additional 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 and our expectations regarding growth through acquisitions. 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, raw materials, parts and components;
- 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 events; and
- the factors discussed in Item 1A to this Annual Report under the heading "Risk Factors."

We believe these forward-looking statements are reasonable. However, 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 them 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 2020, we deployed $6 billion of capital toward acquisitions, including approximately $5.4 billion for the acquisition of Vertafore, Inc., a leading provider of SaaS solutions for the property and casualty insurance industry.

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 $1,304.6 in 2020. Information regarding our international operations is set forth in Note 13 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 13 of the Notes to Consolidated Financial Statements included in this Annual Report.

Application Software

Our Application Software segment had net revenues of $1,799.9 for the year ended December 31, 2020, representing 32.6% 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 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.

Sunquest - provides diagnostic and laboratory information systems to health care providers worldwide.

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 $1,738.6 for the year ended December 31, 2020, representing 31.4% 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.

TransCore - provides toll systems and toll products, transaction and violation processing services, and intelligent traffic systems to governmental and private sector entities.

Measurement & Analytical Solutions

Our Measurement & Analytical Solutions segment had net revenues of $1,469.9 for the year ended December 31, 2020, representing 26.6% 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.

CIVCO Radiotherapy - provides radiotherapy solutions, including patient positioning and immobilization devices, and patient care products.

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 $518.7 for the year ended December 31, 2020, representing 9.4% 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.

Zetec - provides non-destructive testing equipment and solutions used primarily in the power generation and other 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. Supply shortages have not had a material adverse effect on our revenues although delays in shipments have occurred following such supply interruptions.

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, 2020 and December 31, 2019, the aggregate amount of the transaction price allocated to remaining performance obligations was $4,298.0 and $3,553.5, respectively.

Backlog is equal to our remaining performance obligations expected to be recognized as revenue within the next 12 months. Backlog was $2,516.1 at December 31, 2020, and $1,985.4 at December 31, 2019.

Distribution and Sales

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

Governmental Regulations

We face extensive government regulation both within and outside the United States 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 the privacy and data security laws of the United States and internationally. A number of states in the United States have passed or introduced bills, which, if passed, impose operational requirements on U.S. companies similar to the requirements reflected in the General Data Protection Regulation ("GDPR") in the European Union ("EU"). For example, the California Consumer Privacy Act of 2018 ("CCPA"), which came into effect on January 1, 2020, requires covered companies that process personal information on California residents to make disclosures to consumers about their data collection, use and sharing practices, allows consumers to opt out of certain data sharing with third parties and provides a new private right of action for data breaches. The compliance and other burdens imposed by the EU's GDPR, CCPA and similar privacy laws and regulations may be substantial to our businesses as they are subject to differing interpretations and implementation among 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 2020 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 the subject 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, 2020, we employed approximately 18,400 people worldwide on a consolidated basis, of which approximately 12,200 were employed in the United States and approximately 6,200 were outside of the United States. 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.

In December 2020, we became 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, in March 2020 we 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. Additionally, employees in our Application Software and Network Software & Solutions businesses, as well as employees in corporate and administrative functions throughout the Company have effectively worked remotely since mid-March 2020, though some employees are gradually returning 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.

ITEM 1A. RISK FACTORS

Risks Related to Economic and Political Conditions

The extent to which the coronavirus (COVID-19) outbreak and measures taken in response thereto impact our business, results of operations, and financial condition will depend on future developments, which are highly uncertain and difficult to predict.

The novel strain of the coronavirus identified in late 2019 has spread across the globe and has resulted in governmental and other regulatory authorities implementing numerous measures to try to contain the virus and its variants, such as travel bans and restrictions, quarantines, shelter in place orders, and shutdowns. These measures have impacted and may further impact our workforce and operations, as well as the work force, operations and financial prospects of our customers, suppliers and business partners. There is considerable uncertainty regarding such measures and potential future measures, such as restrictions on our access to our manufacturing facilities or on our support operations or workforce, or similar limitations for our customers, suppliers and business partners. The spread of COVID-19 has caused us to modify our business practices (including restricting employee travel, developing social distancing plans for our employees, expanding the number of our associates who work from home, and cancelling physical participation in meetings, events and tradeshows), and we may take further actions as may be required by governmental and other regulatory authorities or as we determine are necessary to protect the safety or best interests of our employees, customers, suppliers and business partners.

Impacts our businesses are experiencing from COVID-19 include, but are not limited to:

- The ability of our businesses to visit current and potential customers in order to solicit new business and/or provide necessary on-site installation, implementation and training services has been impacted by the pandemic, which has, in some cases, limited our ability to obtain new business and effectively service existing business;
- Government restrictions on non-emergency hospital procedures resulted in decreased (1) demand in our businesses that provide medical products used in non-emergency procedures and (2) revenue related to pharmaceutical utilization in post-acute healthcare settings;
- The unprecedented slowdown and/or shut down of global economy sectors and the related uncertain timeline to reopen and recover, particularly in areas experiencing a more severe outbreak of the virus, has created a weak demand environment for our businesses serving industrial and energy markets; and
- Some of our customers, including those in the medical field, may seek to delay payments to us while they are addressing the numerous challenges presented by COVID-19; to date, such delays have not impacted the timing of our cash flow in a significant manner.

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 including distribution and administration of available vaccines, and how quickly and to what extent normal economic and operating conditions can resume. After the COVID-19 outbreak subsides, we may continue to experience materially adverse impacts to our business as a result of the virus's global economic impact, including the availability of credit, adverse impacts on our liquidity and any recession that has occurred or may occur in the future.

There are no comparable recent events that provide guidance as to the effect of the spread of COVID-19 and its variants as a global pandemic may have on our customers, suppliers, vendors and other business partners, and, as a result, 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, 2020, 19% of our net revenues and 15% 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; 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, 2020, we had $9,566.5 in total consolidated indebtedness. In addition, we had $1,351.0 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 16% of our total net revenues for the years ended December 31, 2020 and 2019. 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.

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. 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, 2020, goodwill totaled $14,395.2 compared to $10,479.8 of stockholders' equity, and represented 60% of our total assets of $24,024.8. 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 shutdown 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. Computer viruses, cyber-attacks, other external hazards and/or human error could result in the misappropriation of assets or sensitive information, corruption of data or operational disruption. For example, 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 has been named as a defendant in a number of putative class actions regarding the incident.

Global cybersecurity threats and incidents 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, computer viruses, introduction of malware or ransomware and other disruptive problems caused by hackers, including incidents similar to the "Trojan Horse" attack commonly referred to as the SolarWinds security breach. Moreover, as more of our employees work remotely due to the COVID 19 pandemic or otherwise, our networks and systems may be more susceptible to breach or sabotage due to employee misuse or error which may increase the risk of access to our systems by unauthorized parties.

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 IT networks and systems and maintenance of backup and protective systems. 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, changes in exchange rates and prevailing price levels. 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 we believe that there will continue to be, increased regulation with respect to the collection, use and handling of personal, financial and other information as regulatory authorities in the United States and around the world have recently passed or are currently considering a number of legislative and regulatory proposals concerning data protection, privacy and data security. This includes the California Consumer Privacy Act, or CCPA, which came into effect in January 2020, and the GDPR, which is a European Union-wide legal framework to govern data collection, use and sharing and related consumer privacy rights that became effective in May 2018. The CCPA provides for civil penalties for violations, as well as a private right of action for data breaches that may increase data breach litigation. The GDPR provides significant penalties for non-compliance (up to 4% of global revenue). European data protection authorities have already imposed fines for GDPR violations up to, in some cases, hundreds of millions of Euros. Many states in the United States are also considering their own privacy laws that, in the absence of a preemptive Federal privacy law, could impose burdensome and conflicting requirements. The interpretation and application of consumer and data protection laws and industry standards in the United States, Europe 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 which 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, or interpretation of existing law or regulation, imposing greater fees or taxes or restriction on the collection, use or transfer of information or data internationally or over the Web, could result in a decline in the use and adversely affect sales of our products and services 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 the information we make available to our customers and the public about our data handling practices, and our inability to do so may adversely impact sales of our solutions and services to certain customers, particularly customers in highly-regulated industries, such as the healthcare industry, and could result in regulatory actions, fines, legal proceedings and negatively impact our brand, reputation and our business.

We export a significant portion of our products. Difficulties associated with the export of our products could harm our business.

Sales to customers outside the U.S. by our businesses located in the U.S. account for a significant portion of our net revenues. These sales accounted for 7% and 10% of our net revenues for the years ended December 31, 2020 and 2019, respectively. We are subject to risks that could limit our ability to export our products or otherwise reduce the demand for these products in our foreign markets. Such risks include, without limitation, the following:

- unfavorable changes in or noncompliance with U.S. and other jurisdictions' export requirements;
- restrictions on the export of technology and related products;
- unfavorable changes in or noncompliance with U.S. and other jurisdictions' export policies to certain countries;
- unfavorable changes in the import policies of our foreign markets; and
- a general economic downturn in our foreign markets.

The occurrence of any of these events could reduce the foreign demand for our products or could limit our ability to export our products and, therefore, could have a material negative effect on our future sales and earnings.

General Risk Factors

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.

Over the past several years, we have experienced significant changes to our executive leadership team. 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.

Any business disruptions due to political instability, armed hostilities, incidents of terrorism, incidents of directed cyber attacks, public health crisis or 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 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. Notably, 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 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.

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 East, Sarasota, Florida. As of December 31, 2020, we owned approximately 0.8 million square feet, and leased approximately 4.7 million square feet. Of the total 5.5 million square feet, 72% 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 12 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, 2021 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 2021 Annual Meeting of Shareholders.

L. Neil Hunn, 48, 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, 45, 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, 52, 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 Squire Patton Boggs.

Jason P. Conley, 45, has served as Vice President and Controller since 2017. 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 199 record holders of our common stock as of February 12, 2021.

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 2020, our Board of Directors increased the quarterly dividend paid January 22, 2021 to $0.5625 per share from $0.5125 per share, an increase of 10%. This is the twenty-eighth 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.

Recent Sales of Unregistered Securities - In 2020, there were no sales of unregistered securities.

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, 2020, 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, 2015, 2016, 2017, 2018, 2019 and 2020. The graph assumes that $100 was invested on December 31, 2015 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.

	12/31/2015	12/31/2016	12/31/2017	12/31/2018	12/31/2019	12/31/2020
Roper Technologies, Inc.	$ 100.00	$ 97.12	$ 138.28	$ 143.15	$ 191.33	$ 234.17
S&P 500	100.00	111.96	136.40	130.42	171.49	203.04
S&P 500 Industrials	100.00	118.86	143.86	124.74	161.38	179.23

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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. SELECTED FINANCIAL DATA

You should read the table below in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our Consolidated Financial Statements and related notes included in this Annual Report (amounts in millions, except per share data).

	As of and for the Years ended December 31,				
	2020 (1)	2019 (2)	2018 (3)	2017 (4)	2016 (5)
Operations data:					
Net revenues	$ 5,527.1	$ 5,366.8	$ 5,191.2	$ 4,607.5	$ 3,789.9
Gross profit	3,543.0	3,427.1	3,279.5	2,864.8	2,332.4
Income from operations	1,431.1	1,498.4	1,396.4	1,210.2	1,054.6
Net earnings (6)	949.7	1,767.9	944.4	971.8	658.6
Per share data:					
Basic earnings per share	$ 9.08	$ 17.02	$ 9.15	$ 9.51	$ 6.50
Diluted earnings per share	$ 8.98	$ 16.82	$ 9.05	$ 9.39	$ 6.43
Dividends declared per share	$ 2.1000	$ 1.9000	$ 1.7000	$ 1.4625	$ 1.2500
Balance sheet data:					
Cash and cash equivalents	$ 308.3	$ 709.7	$ 364.4	$ 671.3	$ 757.2
Working capital (7) (8)	(498.4)	(505.4)	(200.4)	(140.4)	(25.0)
Total assets	24,024.8	18,108.9	15,249.5	14,316.4	14,324.9
Current portion of long-term debt	502.0	602.2	1.5	800.9	401.0
Long-term debt, net of current portion	9,064.5	4,673.1	4,940.2	4,354.6	5,808.6
Stockholders' equity	10,479.8	9,491.9	7,738.5	6,863.6	5,788.9

(1) Includes results from the acquisitions of FMIC from June 9, 2020, Team TSI from June 15, 2020, Vertafore from September 3, 2020, IFS from September 15, 2020, WELIS from September 18, 2020, and EPSi from October 15, 2020.

(2) Includes results from the acquisitions of Foundry from April 18, 2019, ComputerEase from August 19, 2019, iPipeline from August 22, 2019, and Bellefield from December 18, 2019; and the results from the Imaging businesses through disposal on February 5, 2019 and Gatan through disposal on October 29, 2019.

(3) Includes results from the acquisitions of Quote Software from January 2, 2018, PlanSwift Software from March 28, 2018, Smartbid from May 8, 2018, PowerPlan, Inc. from June 4, 2018, ConceptShare from June 7, 2018, BillBlast from July 10, 2018 and Avitru from December 31, 2018.

(4) Includes results from the acquisitions of Phase Technology from June 21, 2017, Handshake Software, Inc. from August 4, 2017, Workbook Software A/S from September 15, 2017 and Onvia, Inc. from November 17, 2017.

(5) Includes results from the acquisitions of CliniSys Group Ltd. from January 7, 2016, PCI Medical Inc. from March 17, 2016, GeneInsight Inc. from April 1, 2016, iSqFt Holdings Inc. (d/b/a ConstructConnect) from October 31, 2016, UNIConnect LC from November 10, 2016 and Deltek, Inc. from December 28, 2016.

(6) The Company recognized an after tax gain of $687.3 in connection with the dispositions of the Imaging businesses and Gatan during 2019. The Tax Cuts and Jobs Act of 2017 ("the Tax Act") was signed into U.S. law on December 22, 2017, which was prior to the end of the Company's 2017 reporting period and resulted in a one-time net income tax benefit of $215.4.

(7) Net working capital equals current assets, excluding cash, less total current liabilities, excluding debt.

(8) In 2019 working capital includes the impact of the increase in income taxes payable of approximately $200.0 due to the taxes incurred on the gain on sale of Gatan, and the adoption of Accounting Standards Codification ("ASC") Topic 842, Leases ("ASC 842") which resulted in an increase to current liabilities of $56.8 as of December 31, 2019 and $65.1 as of December 31, 2020. The other balance sheet accounts impacted due to the adoption of ASC 842 are set forth in Note 16 of the Notes to Consolidated Financial Statements included in this Annual Report.

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

All currency amounts are in millions unless specified

A detailed discussion of the fiscal 2020 year-over-year changes can be found below and a detailed discussion of fiscal 2019 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, 2019.

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. Our acquisitions have represented both new strategic platforms and additions to existing businesses.

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 our Consolidated Financial Statements for the year ended December 31, 2020 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 accounts receivable collectibility, inventory valuation, future warranty obligations, 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 from period-to-period.

Accounts receivable collectibility is based on the economic circumstances of customers and credits given after the customer obtains control over the promised products or services, including in certain cases credits for returned products. Allowance for doubtful accounts is estimated 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. The returns and other sales credit allowance is an estimate of customer returns, exchanges, discounts or other forms of anticipated concessions based on an analysis of historical credit memos and is treated as a reduction in revenue. At December 31, 2020, our allowance for doubtful accounts receivable was $25.3 and our allowance for sales returns and sales credits was $3.8, for a total of $29.1, or 3.3% of total gross accounts receivable, as compared to a total of $20.3, or 2.5% of total gross accounts receivable, at December 31, 2019. This percentage is influenced by the risk profile of the underlying receivables, and the timing of write-offs of accounts deemed uncollectible.

We regularly compare inventory quantities on hand against anticipated future usage, which we determine as a function of historical usage or forecasts related to specific items in order to evaluate obsolescence and excessive quantities. When we use historical usage, this information is also qualitatively compared to business trends to evaluate the reasonableness of using historical information as an estimate of future usage. At December 31, 2020, inventory reserves for excess and obsolete inventory were $40.4, or 16.9% of gross inventory cost, as compared to $33.4, or 14.4% of gross inventory cost, at December 31, 2019. The inventory reserve as a percent of gross inventory cost is influenced by specific identification of reserves needed based upon changes in our business as well as the physical disposal of obsolete inventory.

Most of our product-based revenues are covered by warranty provisions that generally provide for the repair or replacement of qualifying defective items for a specified period after the time of sale, typically 12 to 24 months. Future warranty obligations are evaluated using, among other factors, historical cost experience, product evolution and customer feedback. Our expense for warranty obligations was less than 1% of net revenues for each of the years ended December 31, 2020, 2019 and 2018.

Revenues from our project-based businesses, including toll and traffic systems, control systems and installations of large software application projects, are generally recognized over time using the input method, primarily utilizing the ratio of costs incurred to total estimated costs, as the measure of performance. The Company recognized revenues of $345.0, $247.8 and $245.9 for the years ended December 31, 2020, 2019 and 2018, respectively, using this method. There was $363.9 and $401.6 of revenue related to unfinished percentage-of-completion contracts had yet to be recognized at December 31, 2020, and 2019, respectively. The decrease was due primarily to revenue recognized at our TransCore business related to the contract for the New York Central Business District Tolling Program during 2020.

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. During 2020, our effective income tax rate was 21.5%, as compared to the 2019 rate of 20.6%. 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. We expect the effective tax rate for 2021 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 both an income approach (discounted cash flows) and a 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 36 reporting units with individual goodwill amounts ranging from zero to $3,228.7. In 2020, 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 35 of its reporting units and thus was not required to perform a quantitative assessment for these reporting units. For the remaining reporting unit, the Company performed its quantitative assessment and concluded that the fair value of the reporting unit was substantially in excess of its carrying value, with no impairment indicated as of October 1, 2020.

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.

The Company performed a quantitative analysis over the fair values of two of its trade names and concluded that the fair value exceeded its carrying value, with no impairment indicated as of October 1, 2020. Of those trade names subjected to our quantitative analysis, one, associated with our lab software business, had a fair value approximately 20% in excess of its carrying value, as compared to 2019 when the fair value approximated its carrying value. The primary driver of the increase in the fair value from 2019 to 2020 was a decrease in the discount rate, primarily due to a reduced risk-free interest rate. A 100 basis point increase in the discount rate would result in a $2.8 impairment and a 100 basis point decrease in the terminal growth rate would result in a fair value that approximates its carrying value.

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. No impairment resulted from the annual reviews performed in 2020.

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.

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,	
	2020	2019
Net revenues:		
Application Software [1]	$ 1,799.9	$ 1,588.0
Network Software & Systems [2]	1,738.6	1,529.5
Measurement & Analytical Solutions [3]	1,469.9	1,596.4
Process Technologies	518.7	652.9
Total	$ 5,527.1	$ 5,366.8
Gross margin:		
Application Software	68.3 %	67.0 %
Network Software & Systems	67.1	69.2
Measurement & Analytical Solutions	59.2	58.5
Process Technologies	53.5	56.9
Total	64.1 %	63.9 %
Segment operating margin:		
Application Software	26.0 %	25.5 %
Network Software & Systems	31.6	35.2
Measurement & Analytical Solutions	32.2	31.4
Process Technologies	25.4	34.6
Total	29.4 %	31.1 %
Corporate administrative expenses	(3.5)%	(3.2)%
Income from operations	25.9	27.9
Interest expense, net	(4.0)	(3.5)
Other income/(expense)	(0.1)	(0.1)
Gain on disposal of businesses	—	17.2
Earnings before income taxes	21.9	41.5
Income taxes	(4.7)	(8.6)
Net earnings	17.2 %	32.9 %

(1) Includes results from the acquisitions of ComputerEase from August 19, 2019, Bellefield from December 18, 2019, Vertafore from September 3, 2020, and EPSi from October 15, 2020.
(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 and WELIS from September 18, 2020.
(3) Includes the results from the Imaging businesses through February 5, 2019 and Gatan through October 29, 2019.

Year Ended December 31, 2020 Compared to Year Ended December 31, 2019

Net revenues for the year ended December 31, 2020 were $5,527.1 as compared to $5,366.8 for the year ended December 31, 2019, an increase of 3.0%. The increase was the result of net acquisition/divestiture contribution of 3.9% and a foreign exchange benefit of 0.1%, partially offset by an organic decline of 1.0%.

In our Application Software segment, net revenues for the year ended December 31, 2020 increased by $211.9 or 13% over the year ended December 31, 2019. Organic revenues increased by 1% and acquisitions accounted for 13% of our growth. The growth 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. Selling, general and administrative ("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.

Our Network Software & Systems segment reported a $209.1 or 14% increase in net revenues for the year ended December 31, 2020 over the year ended December 31, 2019. Organic revenues increased by 4% and acquisitions accounted for 10% of our growth. The growth in organic revenues was led by our higher project activity at our toll and traffic business and subscription growth at our SaaS businesses. Gross margin decreased to 67.1% for the year ended December 31, 2020 from 69.2% for the year ended December 31, 2019, due primarily to revenue mix. SG&A expenses as a percentage of net revenues increased to 35.5% in the year ended December 31, 2020, as compared to 34.0% 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 31.6% in the year ended December 31, 2020 as compared to 35.2% in the year ended December 31, 2019.

Net revenues for our Measurement & Analytical Solutions segment decreased by $126.5 or 8% for the year ended December 31, 2020 as compared to the year ended December 31, 2019. Organic revenues increased 1%, more than offset by a decrease in revenue of 9% attributable to the disposal of Gatan and the Imaging businesses. The growth 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 59.2% in the year ended December 31, 2020, as compared to 58.5% in the year ended December 31, 2019, due primarily to revenue mix. SG&A expenses as a percentage of net revenues remained relatively flat at 27.0% in the year ended December 31, 2020, as compared to 27.1% in the year ended December 31, 2019. The resulting operating margin was 32.2% in the year ended December 31, 2020 as compared to 31.4% in the year ended December 31, 2019.

In our Process Technologies segment, net revenues for the year ended December 31, 2020 decreased by $134.2 or 21% as compared to the year ended December 31, 2019, all of which was organic. The decrease 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 53.5% in the year ended December 31, 2020 as compared to 56.9% in the year ended December 31, 2019, due primarily to lower revenues. SG&A expenses as a percentage of net revenues increased to 28.1% in the year ended December 31, 2020, as compared to 22.3% 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 34.6% in the year ended December 31, 2019.

Corporate expenses increased by $20.1 to $192.5, or 3.5% of revenues, in 2020 as compared to $172.4, or 3.2% 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.

Other expense, net, of $2.9 and $5.1 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, partially offset by royalty income.

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 20.6%. 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 27% to $2,516.1 at December 31, 2020 as compared to $1,985.4 at December 31, 2019, organic growth was 3% and acquisitions contributed 24%.

	2020	2019	change
Application Software	$ 1,366.9	$ 834.6	63.8 %
Network Software & Systems	802.9	848.5	(5.4)
Measurement & Analytical Solutions	228.8	188.5	21.4
Process Technologies	117.5	113.8	3.3
Total	$ 2,516.1	$ 1,985.4	26.7 %

Financial Condition, Liquidity and Capital Resources
All currency amounts are in millions unless specified

Selected cash flows for the years ended December 31, 2020, and 2019 are as follows:

	2020	2019
Cash provided by/(used in):		
Operating activities	$ 1,525.1	$ 1,461.8
Investing activities	(6,073.9)	(1,296.0)
Financing activities	4,136.9	177.0

Operating activities - The growth in cash provided by operating activities in 2020 and in 2019 was primarily due to improvement in working capital, lower cash taxes paid excluding the tax associated with gain on disposal of businesses, and $43.7 of employer social security payroll taxes deferred during the year ended December 31, 2020, that are payable in installments in 2021 and 2022 under the U.S. Coronavirus Aid, Relief, and Economic Security ("CARES") Act, partially offset by higher cash taxes paid of $201.9 on the disposal of Gatan paid in 2020 as compared to $39.4 of cash taxes paid on the disposal of the Imaging businesses in 2019.

Investing activities - Cash used in investing activities during 2020 was primarily for business acquisitions, most notably Vertafore and EPSI. Cash used in investing activities during 2019 was primarily for business acquisitions, most notably iPipeline and Foundry, partially offset by proceeds from the disposal of the Gatan business and the Imaging businesses.

Financing activities - 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. Cash provided by financing activities during 2019 was primarily from the issuance of $1,200.0 of senior notes partially offset by $865.0 of revolving debt repayments and to a lesser extent dividend payments.

Net working capital (current assets, excluding cash, less total current liabilities, excluding debt) was negative $498.4 at December 31, 2020 compared to negative $505.4 at December 31, 2019, due primarily to lower income taxes payable and increased accounts receivable, partially offset by increased deferred revenue and other accrued liabilities. The decrease in income taxes payable is due primarily to the $201.9 income tax cash payment associated with the divestiture of Gatan. The deferred revenue increase is due to a higher percentage of revenue from software and subscription-based services. Consistent negative net working capital demonstrates Roper's continued evolution and focus on asset-light business models.

Total debt excluding unamortized debt issuance costs was $9,626.2 at December 31, 2020 (47.9% of total capital) compared to $5,307.7 at December 31, 2019 (35.9% of total capital). Our increased total debt at December 31, 2020 compared to December 31, 2019 was due primarily to the issuance of $3,300.0 senior unsecured notes and $1,620.0 of revolving debt borrowings, partially offset by the redemption of $600.0 of outstanding 3.00% senior unsecured notes. The net proceeds were used primarily to fund the purchase price of the acquisition of Vertafore.

On September 2, 2020, the Company entered into a new three-year unsecured credit facility among Roper, the financial institutions from time to time 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 Bank, Ltd., Mizuho Bank, Ltd., PNC Bank, National Association, Truist Bank and TD Bank, N.A., as co-documentation agents, which replaced its existing $2,500.0 unsecured credit facility, dated as of September 23, 2016, as amended. The new facility comprises a three-year $3,000.0 revolving credit facility, which includes availability of up to $150.0 for letters of credit. Loans under the facility will be available in dollars, and letters of credit will be available in dollars and other currencies to be agreed. 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, 2020 and 2019.

At December 31, 2020, we had $8,000.0 of senior unsecured notes and $1,620.0 of outstanding revolver borrowings. In addition, we had $6.2 of other debt in the form of finance leases and several smaller facilities that allow for borrowings or the issuance of letters of credit in foreign locations to support our non-U.S. businesses. We had $67.1 of outstanding letters of credit at December 31, 2020, of which $29.0 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 8 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, 2020 totaled $259.1 as compared to $291.8 at December 31, 2019, a decrease of 11.2%. The decrease was due primarily to the repatriation of $373.4 during the year, partially offset by cash generated from foreign operations. We intend to repatriate substantially all historical and future earnings.

Capital expenditures of $31.2, $52.7 and $49.1 were incurred during 2020, 2019 and 2018, respectively. Capitalized software expenditures of $17.7, $10.2 and $9.5 were incurred during 2020, 2019 and 2018, respectively. Capital expenditures and capitalized software expenditures were relatively consistent in 2020 as compared to 2019 and 2018. 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, 2020.

Contractual Cash Obligations [1]	Total	Payments Due in Fiscal Year 2021	2022	2023	2024	2025	Thereafter
Total debt	$ 9,626.2	$ 502.8	$ 801.7	$ 2,321.7	$ 500.0	$ 1,000.0	$ 4,500.0
Senior note interest	1,251.0	207.0	193.0	176.0	150.5	138.7	385.8
Operating leases	309.6	71.7	56.0	46.8	37.0	29.9	68.2
Total	$ 11,186.8	$ 781.5	$ 1,050.7	$ 2,544.5	$ 687.5	$ 1,168.6	$ 4,954.0

Other Commercial Commitments	Total Amount Committed	Amounts Expiring in Fiscal Year 2021	2022	2023	2024	2025	Thereafter
Standby letters of credit and bank guarantees	$ 67.1	$ 23.5	$ 42.4	$ 0.5	$ 0.1	$ 0.4	$ 0.2

[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.

As of December 31, 2020, we had $716.9 of outstanding surety bonds. 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 we are committed to reducing debt. 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 2021 (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 impact of the COVID-19 pandemic on our business prospects and the financial markets generally. None of these factors can be predicted with certainty.

Off-Balance Sheet Arrangements

At December 31, 2020 and 2019, we did not have any relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities, which would have been established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes.

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, 2020, we had $8,000.0 of fixed rate borrowings with interest rates ranging from 0.45% to 4.20%. At December 31, 2020, the prevailing market rates for our long-term notes were between 3.2% lower and 0.1% higher than the fixed rates on our debt instruments. Our credit facility contains a $3,000.0 variable-rate revolver with $1,620.0 of outstanding borrowings at December 31, 2020.

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 16% of our total revenues in 2020 and 74% of these revenues were recognized by companies with a European functional currency. If these currency exchange rates had been 10% different throughout 2020 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

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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, 2020 and 2019, 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, 2020, 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, 2020, 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, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020 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, 2020, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Change in Accounting Principle

As discussed in Note 1 to the consolidated financial statements, the Company changed the manner in which it accounts for leases in 2019.

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 six acquisitions completed in 2020 from its assessment of internal control over financial reporting as of December 31, 2020 because they were acquired by the Company in purchase business combinations during 2020. We have also excluded the six acquisitions completed in 2020 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 1% and 4%, respectively, of the related consolidated financial statement amounts as of and for the year ended December 31, 2020.

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 matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that (i) relate 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 matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Quantitative Goodwill Impairment Assessment

As described in Notes 1 and 5 to the consolidated financial statements, the Company's consolidated goodwill balance was $14,395.2 million as of December 31, 2020. 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). Management conducted its analysis qualitatively and assessed whether it was more likely than not that the respective fair value of the reporting units was less than the carrying amount. Management determined that impairment of goodwill was not likely in 35 of its reporting units and thus was not required to perform a quantitative analysis for these reporting units. For the remaining one reporting unit, management performed its quantitative analysis. 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. 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.

The principal considerations for our determination that performing procedures relating to the quantitative goodwill impairment assessment is a critical audit matter are (i) the significant judgment by management when determining the fair value estimate of the reporting unit; (ii) a high degree of auditor judgment, subjectivity and effort in performing procedures and evaluating management's significant assumptions related to projected revenue growth rates and the discount rate; 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 goodwill impairment assessment, including controls over the valuation of the Company's reporting units. These procedures also included, among others (i) testing management's process for determining the fair value estimate of the one reporting unit; (ii) evaluating the appropriateness of the income approach; (iii) testing the completeness and accuracy of the underlying data used in the approach; and (iv) evaluating the reasonableness of the significant assumption used by management related to projected revenue growth rates and the discount rate. Evaluating management's assumption related to projected revenue growth rates involved evaluating whether the assumption was reasonable considering (i) the current and past performance of the reporting unit; (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 income approach and (ii) the reasonableness of the discount rate significant assumption.

Quantitative Indefinite-Lived Trade Name Intangible Asset Impairment Assessment

As described in Notes 1 and 5 to the consolidated financial statements, the Company's consolidated indefinite-lived intangible assets balance was $784.1 million as of December 31, 2020, which was comprised entirely of trade names. 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. 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 the 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. 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.

The principal considerations for our determination that performing procedures relating to the quantitative indefinite-lived trade name intangible asset impairment assessment is a critical audit matter are (i) the significant judgment by management when determining the fair value estimate 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 indefinite-lived trade name intangible assets impairment test, including controls over the valuation of the Company's indefinite-lived trade name intangible asset. These procedures also included, among others (i) testing management's process for determining the fair value estimate; (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 significant assumptions used by management related to the royalty rate, discount rate, and terminal value. Evaluating management's assumption related to the terminal value involved evaluating whether the assumption was reasonable considering (i) the current and past performance of the asset group comprised of the 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.

Valuation of Amortizable Customer Relationships Intangible Assets Acquired – Project Viking Holdings, Inc. (Vertafore)

As described in Notes 1 and 2 to the consolidated financial statements, the Company 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 million. The acquired amortizable intangible assets include customer relationships of $2,230 million. 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 the customer attrition rates 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.

The principal considerations for our determination that performing procedures relating to the valuation of amortizable customer relationships intangible assets acquired is a critical audit matter are (i) the significant judgment by management when determining the fair value estimates of the amortizable customer relationships intangible assets; (ii) a high degree of auditor judgment, subjectivity and effort in performing procedures and evaluating management's significant assumptions related to the customer attrition rates, projected customer revenue growth rates, margins, and discount rate; 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 valuation of acquired amortizable customer relationships intangible assets. These procedures also included, among others (i) testing management's process for determining the fair value estimates; (ii) evaluating the appropriateness of the excess earnings method; (iii) testing the completeness and accuracy of the underlying data used in the method; and (iv) evaluating the reasonableness of significant assumptions used by management related to the customer attrition rates, projected customer revenue growth rates, margins, and discount rate. Evaluating management's assumptions related to projected customer revenue growth rates and margins involved evaluating whether the assumptions were reasonable considering (i) the past and post-acquisition performance of the business and (ii) whether the assumptions were consistent with evidence obtained in other areas of the audit. Professionals with specialized skill and knowledge were used to assist in evaluating the reasonableness of significant assumptions related to the customer attrition rates and the discount rate.

/s/ PricewaterhouseCoopers LLP
Tampa, Florida
February 22, 2021

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

ROPER TECHNOLOGIES, INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS
December 31, 2020 and 2019
(in millions, except per share data)

	2020	2019
Assets		
Cash and cash equivalents	$ 308.3	$ 709.7
Accounts receivable, net	863.0	791.6
Inventories, net	198.4	198.6
Income taxes receivable	21.9	18.5
Unbilled receivables	241.7	183.5
Other current assets	119.0	97.6
Total current assets	1,752.3	1,999.5
Property, plant and equipment, net	140.6	139.9
Goodwill	14,395.2	10,815.4
Other intangible assets, net	7,206.9	4,667.7
Deferred taxes	104.0	95.6
Other assets	425.8	390.8
Total assets	$ 24,024.8	$ 18,108.9
Liabilities and Stockholders' Equity		
Accounts payable	$ 177.8	$ 162.0
Accrued compensation	286.1	240.1
Deferred revenue	994.6	831.8
Other accrued liabilities	457.0	346.2
Income taxes payable	26.9	215.1
Current portion of long-term debt, net	502.0	602.2
Total current liabilities	2,444.4	2,397.4
Long-term debt, net of current portion	9,064.5	4,673.1
Deferred taxes	1,562.5	1,108.1
Other liabilities	473.6	438.4
Total liabilities	13,545.0	8,617.0
Commitments and contingencies (Note 12)		
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; 106.7 shares issued and 104.9 outstanding at December 31, 2020 and 105.9 shares issued and 104.1 outstanding at December 31, 2019	1.1	1.1
Additional paid-in capital	2,097.5	1,903.9
Retained earnings	8,546.2	7,818.0
Accumulated other comprehensive loss	(147.0)	(212.8)
Treasury stock, 1.8 shares at December 31, 2020 and 1.8 shares at December 31, 2019	(18.0)	(18.3)
Total stockholders' equity	10,479.8	9,491.9
Total liabilities and stockholders' equity	$ 24,024.8	$ 18,108.9

See accompanying notes to Consolidated Financial Statements.

ROPER TECHNOLOGIES, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF EARNINGS
Years ended December 31, 2020, 2019 and 2018
(Dollar and share amounts in millions, except per share data)

	Years ended December 31,		
	2020	2019	2018
Net revenues	$ 5,527.1	$ 5,366.8	$ 5,191.2
Cost of sales	1,984.1	1,939.7	1,911.7
Gross profit	3,543.0	3,427.1	3,279.5
Selling, general and administrative expenses	2,111.9	1,928.7	1,883.1
Income from operations	1,431.1	1,498.4	1,396.4
Interest expense, net	218.9	186.6	182.1
Loss on extinguishment of debt	—	—	15.9
Other income/(expense), net	(2.9)	(5.1)	—
Gain on disposal of businesses	—	920.7	—
Earnings before income taxes	1,209.3	2,227.4	1,198.4
Income taxes	259.6	459.5	254.0
Net earnings	$ 949.7	$ 1,767.9	$ 944.4
Earnings per share:			
Basic	$ 9.08	$ 17.02	$ 9.15
Diluted	$ 8.98	$ 16.82	$ 9.05
Weighted-average common shares outstanding:			
Basic	104.6	103.9	103.2
Diluted	105.7	105.1	104.4

See accompanying notes to Consolidated Financial Statements.

ROPER TECHNOLOGIES, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
Years ended December 31, 2020, 2019 and 2018
(in millions)

	Years ended December 31,		
	2020	2019	2018
Net earnings	$ 949.7	$ 1,767.9	$ 944.4
Other comprehensive income, net of tax:			
Foreign currency translation adjustments	65.8	30.5	(57.1)
Total other comprehensive income/(loss), net of tax	65.8	30.5	(57.1)
Comprehensive income	$ 1,015.5	$ 1,798.4	$ 887.3

See accompanying notes to Consolidated Financial Statements.

ROPER TECHNOLOGIES, INC. AND SUBSIDIARIES

CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
Years ended December 31, 2020, 2019 and 2018
(in millions, except per share data)

	Common Stock						
	Shares	Amount	Additional paid-in capital	Retained earnings	Accumulated other comprehensive earnings	Treasury stock	Total stockholders' equity
Balances at December 31, 2017	102.5	$ 1.0	$ 1,602.9	$ 5,464.6	$ (186.2)	$ (18.7)	$ 6,863.6
Adoption of ASC 606	—	—	—	14.3	—	—	14.3
Net earnings	—	—	—	944.4	—	—	944.4
Stock option exercises	0.6	0.1	58.7	—	—	—	58.8
Treasury stock sold	—	—	5.2	—	—	0.2	5.4
Currency translation adjustments, including tax benefit of $7.2	—	—	—	—	(57.1)	—	(57.1)
Stock based compensation	—	—	132.9	—	—	—	132.9
Restricted stock activity	0.3	—	(48.2)	—	—	—	(48.2)
Dividends declared ($1.70 per share)	—	—	—	(175.6)	—	—	(175.6)
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

See accompanying notes to Consolidated Financial Statements.

ROPER TECHNOLOGIES, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
Years ended December 31, 2020, 2019 and 2018
(in millions)

	Years ended December 31,		
	2020	**2019**	**2018**
Cash flows from operating activities:			
Net earnings	$ 949.7	$ 1,767.9	$ 944.4
Adjustments to reconcile net earnings to cash flows from operating activities:			
Depreciation and amortization of property, plant and equipment	53.4	49.2	49.5
Amortization of intangible assets	467.4	366.8	317.5
Amortization of deferred financing costs	10.9	7.3	6.3
Non-cash stock compensation	121.7	104.5	133.8
Loss on debt extinguishment	—	—	15.9
Gain on disposal of businesses, net of associated income tax	—	(687.3)	—
Income tax provision, excluding tax associated with gain on disposal of businesses	259.6	226.1	254.0
Changes in operating assets and liabilities, net of acquired businesses:			
Accounts receivable	53.3	(46.7)	(83.5)
Unbilled receivables	(39.3)	(12.0)	(14.0)
Inventories	4.6	(17.3)	(21.8)
Accounts payable and accrued liabilities	121.6	(12.2)	68.8
Deferred revenue	56.9	108.8	86.6
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	(313.2)	(331.5)	(321.6)
Other, net	(19.6)	(22.4)	(5.8)
Cash provided by operating activities	1,525.1	1,461.8	1,430.1
Cash flows from (used in) investing activities:			
Acquisitions of businesses, net of cash acquired	(6,018.1)	(2,387.3)	(1,275.8)
Capital expenditures	(31.2)	(52.7)	(49.1)
Capitalized software expenditures	(17.7)	(10.2)	(9.5)
Proceeds from (used in) disposal of businesses	(4.3)	1,156.8	—
Other, net	(2.6)	(2.6)	(0.7)
Cash used in investing activities	(6,073.9)	(1,296.0)	(1,335.1)
Cash flows from (used in) financing activities:			
Proceeds from senior notes	3,300.0	1,200.0	1,500.0
Payment of senior notes	(600.0)	—	(1,300.0)
Borrowings (payments) under revolving line of credit, net	1,620.0	(865.0)	(405.0)
Debt issuance costs	(42.0)	(12.1)	(13.9)
Redemption premium for debt extinguishment	—	—	(15.5)
Cash dividends to stockholders	(214.1)	(191.7)	(170.1)
Treasury stock sales	10.5	6.8	5.4
Proceeds from stock based compensation, net	64.4	34.9	10.6
Other, net	(1.9)	4.1	0.4
Cash provided by (used in) financing activities	4,136.9	177.0	(388.1)
Effect of exchange rate changes on cash	10.5	2.5	(13.8)
Net increase (decrease) in cash and cash equivalents	(401.4)	345.3	(306.9)
Cash and cash equivalents, beginning of year	709.7	364.4	671.3
Cash and cash equivalents, end of year	$ 308.3	$ 709.7	$ 364.4
Supplemental disclosures:			
Cash paid for:			
Interest	$ 198.1	$ 171.7	$ 169.0
Income taxes, net of refunds received	$ 515.1	$ 370.9	$ 321.6
Noncash investing activities:			
Net assets of businesses acquired:			
Fair value of assets, including goodwill	$ 6,715.4	$ 2,472.4	$ 1,505.1
Liabilities assumed	(697.3)	(85.1)	(229.3)
Cash paid, net of cash acquired	$ 6,018.1	$ 2,387.3	$ 1,275.8

See accompanying notes to Consolidated Financial Statements.

(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.

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

The Company adopted ASC Topic 326, Financial Instruments - Credit Losses ("ASC 326"), as of January 1, 2020 using the modified retrospective transition method. This ASU amends the impairment model to utilize an expected loss methodology in place of the incurred loss methodology for financial instruments, including trade receivables, and unbilled receivables. 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.

In February 2016, the FASB issued ASC 842, which included the recognition of right-of-use ("ROU") lease assets and lease liabilities on the balance sheet and the disclosure of other key information about leasing arrangements. The Company adopted ASC 842, as of January 1, 2019 using the cumulative effect transition method for leases in existence as of the date of adoption, resulting in the recognition of operating lease ROU assets and total operating lease liabilities of $274.0 and $282.7, respectively, as of January 1, 2019. The difference between the operating lease ROU assets and total operating lease liabilities is the reclassification of previously recognized deferred rent liabilities against operating lease ROU assets. The adoption of ASC 842 did not result in an adjustment to retained earnings and it did not impact our net deferred tax assets or liabilities.

In May 2014, the FASB issued ASC 606, which created a single, comprehensive revenue recognition model for all contracts with customers. The Company adopted ASC 606 as of January 1, 2018 using the modified retrospective transition method resulting in a $14.3 increase to beginning retained earnings.

See the Company's accounting policies below for details.

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 $0.0 and $370.1 cash equivalents at December 31, 2020 and 2019, respectively.

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, 2020, 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:

	Years ended December 31,		
	2020	2019	2018
Basic weighted-average shares outstanding	104.6	103.9	103.2
Effect of potential common stock:			
Common stock awards	1.1	1.2	1.2
Diluted weighted-average shares outstanding	105.7	105.1	104.4

As of and for the years ended December 31, 2020, 2019 and 2018, there were 0.208, 0.627 and 0.724 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 gains/(losses) were $(4.3), $(3.7) and $0.2 for the years ended December 31, 2020, 2019 and 2018, 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 36 reporting units with individual goodwill amounts ranging from zero to $3,228.7. In 2020, 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 35 of its reporting units and thus was not required to perform a quantitative analysis for these reporting units. For the remaining reporting unit, the Company performed its quantitative analysis and concluded that the fair value of the reporting unit was substantially in excess of its carrying value, with no impairment indicated as of October 1, 2020.

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. 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. The Company performed a quantitative analysis over the fair values of two of its trade names and concluded that the fair value exceeded its carrying value, with no impairment indicated as of October 1, 2020.

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. No impairment resulted from the annual testing performed in 2020.

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.

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 bases 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 7 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 information 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	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 $446.1, $403.5 and $376.9 for the years ended December 31, 2020, 2019 and 2018, respectively.

Revenue Recognition - The Company adopted ASC 606 as of January 1, 2018 using the modified retrospective method for all contracts not substantially completed as of the date of adoption. The reported results for 2018 and thereafter reflect the application of ASC 606 guidance. The adoption of ASC 606 represents a change in accounting principle that is intended to more closely align revenue recognition with the transfer of control of the Company's products and services to the customer. 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,		
	2020	2019	2018
Software and related services	$ 2,871.1	$ 2,477.7	$ 2,165.9
Engineered products and related services	2,656.0	2,889.1	3,025.3
Net revenues	$ 5,527.1	$ 5,366.8	$ 5,191.2

Software and related services

SaaS - SaaS subscriptions and ongoing related 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. 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.

Revenues from our project-based businesses, including toll and traffic systems and control systems, are generally recognized over time using the input method, primarily utilizing the ratio of costs incurred to total estimated costs, as the measure of performance. For these projects, payment is typically commensurate with certain performance milestones defined in the contract. Retention and down payments are also customary in these contracts. Estimated losses on any projects are recognized as soon as such losses become probable and reasonably estimable. The impact on revenues due to changes in estimates was immaterial for the year ended December 31, 2020. The Company recognized revenues of $345.0, $247.8 and $245.9 for the years ended December 31, 2020, 2019 and 2018, respectively, using this method.

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 $29.1 and $20.3 at December 31, 2020 and 2019, 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, 2020 and 2019, we had $42.5 and $31.4 of deferred commissions, respectively. We recognized $30.1 of expense related to deferred commissions in the year ended December 31, 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, 2020, the aggregate amount of the transaction price allocated to remaining performance obligations was $4,298.0. We expect to recognize revenue on approximately 59% 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 $43.1 and $30.0 at December 31, 2020 and 2019, respectively.

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

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 contemplates approximately $120 of federal tax attributes that will be 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 that will be substantially utilized by the end of 2021.

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.

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 is integrating into our DAT business and its results are reported in the Network Software & Systems reportable segment.

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 is integrating into our SHP business and its results are reported in the Network Software & Systems reportable segment.

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 is integrating into our iPipeline business and its results are reported in the Network Software & Systems reportable segment.

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 is integrating into our iPipeline business and its results are reported in the Network Software & Systems reportable segment.

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 is integrating 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 is 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 is 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

The Company closed on its sale of Gatan to AMETEK on October 29, 2019 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. 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.

The Company closed on its sale of the Imaging businesses to Teledyne on February 5, 2019 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.

2018 Acquisitions - Roper completed seven business acquisitions in the year ended December 31, 2018, with an aggregate purchase price of $1,279.0, net of cash acquired. The results of operations of the acquired businesses are included in Roper's consolidated results of operations 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 2018 have not been presented because the effects of the acquisitions, individually and in the aggregate, were not material to our financial results.

Roper completed three business acquisitions which provide software solutions that support the development of cost estimates in the construction industry: Quote Software, PlanSwift Software, and Smartbid. These three businesses are integrated into our ContructConnect business and its results are reported in the Network Software & Systems reportable segment.

Acquisition of PowerPlan - On June 4, 2018, Roper acquired 100% of the shares of PowerPlan, a provider of financial and compliance management software and solutions to large complex companies in asset-intensive industries, for a purchase price of $1,111.4, net of cash acquired. The results of PowerPlan are reported in the Application Software reportable segment.

Acquisition of ConceptShare - On June 7, 2018, Roper acquired 100% of the shares of ConceptShare, a provider of cloud-based software for marketing agencies, marketing departments and other creative teams to streamline the review and approval of online work and content. ConceptShare is integrated into our Deltek business and its results are reported in the Application Software reportable segment.

Acquisition of BillBlast - On July 10, 2018, Roper acquired 100% of the shares of BillBlast, a provider of software and ancillary services for the automation of invoicing and reporting for law firms. BillBlast is integrated into our Aderant business and its results are reported in the Application Software reportable segment.

Acquisition of Avitru - On December 31, 2018, Roper acquired 100% of the shares of Avitru, a provider of software that supports the design, development and/or delivery of construction specification solutions and related services. Avitru is integrated into our Deltek business and its results are reported in the Application Software reportable segment.

The Company recorded $717.5 in goodwill and $711.3 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 $635.1 (19 year weighted average useful life) and technology of $48.6 (7 year weighted average useful life).

(3) Inventories

The components of inventories at December 31 were as follows:

	2020	2019
Raw materials and supplies	$ 128.4	$ 125.1
Work in process	28.2	30.9
Finished products	82.2	76.0
Inventory reserves	(40.4)	(33.4)
	$ 198.4	$ 198.6

(4) Property, Plant and Equipment

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

	2020	2019
Land	$ 2.3	$ 2.2
Buildings	87.1	84.7
Machinery and other equipment	223.3	218.1
Computer equipment	117.8	96.4
Software	80.9	73.3
	511.4	474.7
Accumulated depreciation	(370.8)	(334.8)
	$ 140.6	$ 139.9

Depreciation and amortization expense related to property, plant and equipment was $53.4, $49.2 and $49.5 for the years ended December 31, 2020, 2019 and 2018, respectively.

(5) 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, 2018	$ 5,236.1	$ 2,623.7	$ 1,174.7	$ 312.3	$ 9,346.8
Goodwill acquired	143.4	1,303.6	—	—	1,447.0
Currency translation adjustments	8.3	8.8	3.3	2.2	22.6
Reclassifications and other	1.6	(2.6)	—	—	(1.0)
Balances at December 31, 2019	$ 5,389.4	$ 3,933.5	$ 1,178.0	$ 314.5	$ 10,815.4
Goodwill acquired	3,399.0	134.0	—	—	3,533.0
Currency translation adjustments	14.5	16.6	12.8	4.5	48.4
Reclassifications and other	(0.6)	(1.0)	—	—	(1.6)
Balances at December 31, 2020	$ 8,802.3	$ 4,083.1	$ 1,190.8	$ 319.0	$ 14,395.2

Reclassifications and other during the year ended December 31, 2020 were due primarily to tax adjustments for acquisitions in 2020 and 2019. 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	$ 4,955.4	$ (1,349.4)	$ 3,606.0
Unpatented technology	613.0	(279.6)	333.4
Software	172.2	(111.5)	60.7
Patents and other protective rights	12.0	(8.0)	4.0
Trade names	7.9	(4.1)	3.8
Assets not subject to amortization:			
Trade names	659.8	—	659.8
Balances at December 31, 2019	$ 6,420.3	$ (1,752.6)	$ 4,667.7
Assets subject to amortization:			
Customer related intangibles	$ 7,494.7	$ (1,703.8)	$ 5,790.9
Unpatented technology	942.8	(363.9)	578.9
Software	172.4	(127.4)	45.0
Patents and other protective rights	13.0	(6.7)	6.3
Trade names	7.3	(5.6)	1.7
Assets not subject to amortization:			
Trade names	784.1	—	784.1
Balances at December 31, 2020	$ 9,414.3	$ (2,207.4)	$ 7,206.9

Amortization expense of other intangible assets was $462.7, $364.7, and $316.5 during the years ended December 31, 2020, 2019 and 2018, respectively. Amortization expense is expected to be $580 in 2021, $564 in 2022, $555 in 2023, $514 in 2024 and $485 in 2025.

(6) Accrued Liabilities

Accrued liabilities at December 31 were as follows:

	2020	2019
Interest	$ 44.3	$ 34.4
Customer deposits	50.1	22.4
Accrued dividend	60.0	54.3
Rebates	51.8	47.1
Billings in excess of revenues	17.5	9.0
Operating lease liability	65.1	56.8
Other	168.2	122.2
	$ 457.0	$ 346.2

(7) Income Taxes

Earnings before income taxes for the years ended December 31, 2020, 2019 and 2018 consisted of the following components:

	2020	2019	2018
United States	$ 902.4	$ 1,902.2	$ 924.2
Other	306.9	325.2	274.2
	$ 1,209.3	$ 2,227.4	$ 1,198.4

Components of income tax expense for the years ended December 31, 2020, 2019 and 2018 were as follows:

	2020	2019	2018
Current:			
Federal	$ 180.8	$ 391.6	$ 155.4
State	59.0	78.3	56.2
Foreign	77.4	79.8	105.1
Deferred:			
Federal	(54.3)	(43.1)	(24.2)
State	(7.6)	2.6	(25.8)
Foreign	4.3	(49.7)	(12.7)
	$ 259.6	$ 459.5	$ 254.0

Reconciliations between the statutory federal income tax rate and the effective income tax rate for the years ended December 31, 2020, 2019 and 2018 were as follows:

	2020	2019	2018
Federal statutory rate	21.0 %	21.0 %	21.0 %
Foreign operations, net	1.0	0.2	1.6
R&D tax credits	(1.4)	(0.6)	(0.9)
State taxes, net of federal benefit	3.1	1.6	2.4
Stock-based compensation	(3.0)	(1.3)	(3.1)
Tax Cuts and Jobs Act of 2017 - measurement period adjustments	—	—	(1.2)
Divestitures	—	1.8	—
Foreign entity restructuring	—	(1.8)	—
Other, net	0.8	(0.3)	1.4
	21.5 %	20.6 %	21.2 %

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:

	2020	2019
Deferred tax assets:		
Reserves and accrued expenses	$ 187.6	$ 169.6
Net operating loss carryforwards	154.6	111.2
R&D credits	26.3	4.1
Interest expense limitation carryforwards	63.0	9.9
Valuation allowance	(38.0)	(36.3)
Lease liability	65.0	64.0
Total deferred tax assets	$ 458.5	$ 322.5
Deferred tax liabilities:		
Reserves and accrued expenses	$ 23.8	$ 15.5
Amortizable intangible assets	1,803.3	1,229.9
Plant and equipment	8.8	10.8
Accrued tax on unremitted foreign earnings	18.6	17.1
ROU asset	62.5	61.7
Total deferred tax liabilities	$ 1,917.0	$ 1,335.0

As of December 31, 2020, the Company has approximately $51.5 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 increased from 2019 to 2020 primarily due to the acquisition of Vertafore. The Company has approximately $45.7 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 2021 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 $66.9 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 2021 if not utilized. The foreign net operating loss carryforwards increased from 2019 to 2020 primarily due to current year losses. The Company has $27.9 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 2021 if not utilized. The research and development tax credit carryforwards increased from 2019 to 2020 primarily due to the acquisition of Vertafore. Additionally, as of December 31, 2020, the Company has $ 63.0 of IRC Section 163(j) interest expense limitation carryforwards which have an indefinite carryforward period. The interest expense limitation carryforward increased from 2019 to 2020 primarily due to the acquisition of Vertafore.

As of December 31, 2020, the Company determined that a total valuation allowance of $38.0 was necessary to reduce U.S. federal and state deferred tax assets by $17.3 and foreign deferred tax assets by $20.7, where it was more likely than not that all of such deferred tax assets will not be realized. As of December 31, 2020, 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:

	2020	2019	2018
Beginning balance	$ 69.8	$ 63.6	$ 52.2
Additions for tax positions of prior periods	6.0	2.9	2.4
Additions for tax positions of the current period	3.5	4.2	6.9
Additions due to acquisitions	6.2	1.9	4.4
Reductions for tax positions of prior periods	(3.6)	(0.3)	(0.4)
Reductions attributable to lapses of applicable statute of limitations	(6.3)	(2.5)	(1.9)
Ending balance	$ 75.6	$ 69.8	$ 63.6

The total amount of unrecognized tax benefits that, if recognized, would impact the effective tax rate is $74.1. Interest and penalties related to unrecognized tax benefits were $0.9 in 2020 and are classified as a component of income tax expense. Accrued interest and penalties were $9.6 at December 31, 2020 and $8.7 at December 31, 2019. During the next twelve months, it is reasonably possible that the unrecognized tax benefits may decrease by a net $5.0, 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 2017 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.

(8) Long-Term Debt

On September 2, 2020, the Company entered into a new three-year unsecured credit facility (the "Credit Agreement") among Roper, the financial institutions from time to time 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 Bank, Ltd., Mizuho Bank, Ltd., PNC Bank, National Association, Truist Bank and TD Bank, N.A., as co-documentation agents, which replaced its existing $2,500.0 unsecured credit facility, dated as of September 23, 2016, as amended. The new facility comprises a three-year $3,000.0 revolving credit facility, which includes availability of up to $150.0 for letters of credit. Loans under the facility will be available in dollars, and letters of credit will be available in dollars and other agreed-upon currencies. 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 Company will have the right to add foreign subsidiaries as borrowers under the Credit Agreement, subject to the satisfaction of specified conditions. The Company will guarantee the payment and performance by the foreign subsidiary borrowers of their obligations under the Credit Agreement. The Company's obligations under the Credit Agreement are not guaranteed by any of its subsidiaries. However, the Company has the right, subject to the satisfaction of certain conditions set forth in the Credit Agreement, to cause any of its wholly-owned domestic subsidiaries to become guarantors.

Borrowings under the term loan and revolving credit facilities (if any) will bear interest, at the Company's option, at a rate based on either:

- The highest of (1) the interest per annum publicly announced from time to time by JPMorgan Chase Bank, N.A., as its prime rate in effect at its principal office in New York City, (2) the NYFRB Rate (as defined in the Credit Agreement) plus 0.50% and (3) the Eurocurrency Rate (as defined in the Credit Agreement, and which in no case shall be less than zero) for a deposit in Dollars with a maturity of one month plus 1%, in each case plus a per annum spread depending on the Company's senior unsecured long-term debt rating. Based on the Company's current rating, the spread would be 0.125%; or

- The Eurocurrency Rate (as defined in the Credit Agreement, and which in no case shall be less than zero) plus a per annum spread depending on the Company's senior unsecured long-term debt rating. Based on the Company's current rating, the spread would be 1.125%.

Outstanding letters of credit issued under the Credit Agreement will be charged a quarterly fee depending on the Company's senior unsecured long-term debt rating. Based on the Company's current rating, the quarterly fee would be payable at a rate of 1.125% per annum, plus a fronting fee of 0.125% per annum on the undrawn and unexpired amount of all letters of credit.

Additionally, the Company will pay a quarterly facility fee on the used and unused portions of the revolving credit facility depending on the Company's senior unsecured long-term debt rating. Based on the Company's current rating, the quarterly fee would accrue at a rate of 0.125% per annum.

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, 2020, there were $1,620.0 of outstanding borrowings under the 2020 Facility. The Company was in compliance with its debt covenants throughout the years ended December 31, 2020 and 2019.

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.

In September 2009, the Company completed a public offering of $500.0 aggregate principal amount of 6.25% senior unsecured notes due September 1, 2019 (the “2019 Notes”). During 2018 a portion of the net proceeds of the 2018 Offering were used to redeem all of the $500.0 of outstanding 2019 Notes. The Company incurred a debt extinguishment charge in connection with the redemption of the 2019 Notes of $15.9, which represents the make-whole premium and unamortized deferred financing costs.

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, 2020, $600.0 of 3.000% senior unsecured notes 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:

	2020	2019
Unsecured credit facility	$ 1,620.0	$ —
$600 3.000% senior notes due 2020	—	600.0
$500 2.800% senior notes due 2021	500.0	500.0
$500 3.125% senior notes due 2022	500.0	500.0
$300 0.450% senior notes due 2022	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 3.800% senior notes due 2026	700.0	700.0
$700 1.400% senior notes due 2027	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	—
$1,000 1.750% senior notes due 2031	1,000.0	—
Other	6.2	7.7
Less unamortized debt issuance costs	(59.7)	(32.4)
Total debt	9,566.5	5,275.3
Less current portion	502.0	602.2
Long-term debt	$ 9,064.5	$ 4,673.1

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, 2020, Roper's fixed debt consisted of $8,000.0 of senior notes, $6.2 of other debt in the form of finance leases, several smaller facilities that allow for borrowings or the issuance of letters of credit in foreign locations to support Roper's non-U.S. businesses and $67.1 of outstanding letters of credit at December 31, 2020.

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

2021	$ 502.8
2022	801.7
2023	2,321.7
2024	500.0
2025	1,000.0
Thereafter	4,500.0
Total	$ 9,626.2

(9) Fair Value

Roper's debt at December 31, 2020 included $8,000 of fixed-rate senior notes with the following fair values:

$500 2.800% senior notes due 2021	511
$500 3.125% senior notes due 2022	523
$300 0.450% senior notes due 2022	301
$700 3.650% senior notes due 2023	759
$500 2.350% senior notes due 2024	533
$300 3.850% senior notes due 2025	340
$700 1.000% senior notes due 2025	709
$700 3.800% senior notes due 2026	810
$700 1.400% senior notes due 2027	710
$800 4.200% senior notes due 2028	956
$700 2.950% senior notes due 2029	771
$600 2.000% senior notes due 2030	616
$1,000 1.750% senior notes due 2031	996

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.

(10) 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 $33.8, $36.9 and $31.2 for 2020, 2019 and 2018, 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.

(11) Stock-Based Compensation

The Roper Technologies, Inc. 2016 Incentive Plan ("2016 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 and directors. At December 31, 2020, 3.254 shares were available to grant under the 2016 Plan.

Under the Roper Technologies, Inc., Employee Stock Purchase Plan ("ESPP"), previously allowed employees in the U.S. and Canada to designate up to 10% of eligible earnings to purchase Roper's common stock at a 5% discount to the average closing price of the stock at the beginning and end of a 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.

We amended the Roper stock purchase plan effective July 1, 2020, which allows employees in the U.S. and Canada 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, 2020, 2019 and 2018 was as follows:

	2020	2019	2018
Stock based compensation	$ 121.7	$ 104.5	$ 133.8
Tax benefit recognized in net earnings	25.5	22.0	28.1

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. In 2018, this expense included $29.4 associated with accelerated vesting due to the passing of our former executive chairman.

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 $41.4, $32.0, and $23.2 of compensation expense relating to outstanding options during 2020, 2019 and 2018, 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 2020, 2019 and 2018 were calculated using the following weighted-average assumptions:

	2020	2019	2018
Weighted-average fair value ($)	63.22	68.05	57.75
Risk-free interest rate (%)	0.81	2.37	2.65
Average expected option life (years)	5.64	5.42	5.32
Expected volatility (%)	20.39	19.22	18.05
Expected dividend yield (%)	0.62	0.58	0.59

The following table summarizes the Company's activities with respect to its share-based compensation plans for the years ended December 31, 2020 and 2019:

	Number of shares	Weighted-average exercise price per share	Weighted-average contractual term	Aggregate intrinsic value
Outstanding at December 31, 2018	3.205	$ 180.69		
Granted	0.764	320.65		
Exercised	(0.527)	122.94		
Canceled	(0.093)	273.64		
Outstanding at December 31, 2019	3.349	219.40	6.66	$ 452.8
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
Exercisable at December 31, 2020	1.431	$ 178.23	4.75	$ 361.9

The following table summarizes information for stock options outstanding at December 31, 2020:

	Outstanding options			Exercisable options	
Exercise price	Number	Average exercise price	Average remaining life (years)	Number	Average exercise price
$73.56 - $146.02	0.397	$ 123.73	2.3	0.397	$ 123.73
$146.03 - $170.66	0.398	166.28	4.7	0.398	166.28
$170.67 - $212.18	0.469	196.34	5.9	0.415	194.53
$212.19 - $279.31	0.316	264.83	7.3	0.121	254.54
$279.32 -$279.44	0.406	279.39	7.2	0.075	279.39
$279.45 - $321.52	0.080	291.04	8.0	0.025	290.10
$321.53 - $323.36	0.588	323.09	9.2	—	—
$323.37 - $327.91	0.487	326.33	8.2	—	—
$327.92 - $432.45	0.225	368.13	8.9	—	—
$73.56 - $432.45	3.366	$ 255.32	6.8	1.431	$ 178.23

At December 31, 2020, there was $61.9 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 2020, 2019 and 2018 was $155.4, $109.4 and $124.6, respectively. Cash received from option exercises under all plans in 2020 and 2019 was $105.5 and $64.9, respectively.

Restricted Stock Grants - During 2020 and 2019, the Company granted 0.285 and 0.321 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 $79.4, $72.5 and $109.7 of compensation expense related to outstanding shares of restricted stock held by employees and directors during 2020, 2019 and 2018, respectively. In 2018, this expense included $29.4 associated with accelerated vesting due to the passing of our former executive chairman. A summary of the Company's nonvested shares activity for 2020 and 2019 is as follows:

	Number of shares	Weighted-average grant date fair value
Nonvested at December 31, 2018	0.739	$ 225.93
Granted	0.321	318.75
Vested	(0.290)	209.05
Forfeited	(0.061)	225.23
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

At December 31, 2020, there was $89.8 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 1.7 years. Unrecognized compensation expense related to nonvested shares of restricted stock grants is recorded as a reduction to additional paid-in capital in stockholder's equity at December 31, 2020.

Employee Stock Purchase Plan - During 2020, 2019 and 2018, participants of the ESPP purchased 0.031, 0.021 and 0.020 shares, respectively, of Roper's common stock for total consideration of $10.5, $6.8, and $5.4, respectively. All of these shares were purchased from Roper's treasury shares.

(12) 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.

Roper's subsidiary, Vertafore, Inc., has been named in three putative class actions, one in the U.S. District Court for the Southern District of Texas (*Allen, et al. v. Vertafore, Inc.*, Case 4:20-cv-4139), one in the U.S. District Court for the District of Colorado (*Masciotra, et al. v. Vertafore, Inc.*, Case 1:20-cv-03603), 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). All three cases 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. The cases each seek recovery under the Driver's Privacy Protection Act, 18 U.S.C. § 2721. Vertafore is vigorously defending the matters. In addition, the Texas Attorney General is investigating the data event.

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, 2020, Roper had $67.1 of letters of credit issued to guarantee its performance under certain services contracts or to support certain insurance programs and $716.9 of outstanding surety bonds. Certain contracts, primarily those involving public sector customers, require Roper to provide a surety bond as a guarantee of its performance of contractual obligations.

(13) 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, TransCore
- **Measurement & Analytical Solutions** [1] - Alpha, CIVCO Medical Solutions, CIVCO Radiotherapy, Dynisco, FMI, Hansen, Hardy, IPA, Logitech, Neptune, Northern Digital, Struers, Technolog, Uson, Verathon
- **Process Technologies** - AMOT, CCC, Cornell, FTI, Metrix, PAC, Roper Pump, Viatran, Zetec

[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 2020, 2019 and 2018. 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. 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 2020, 2019 and 2018 follows:

	Application Software	Network Software & Systems	Measurement &Analytical Solutions	Process Technologies	Corporate	Total
2020						
Net revenues	$ 1,799.9	$ 1,738.6	$ 1,469.9	$ 518.7	$ —	$ 5,527.1
Operating profit	468.7	549.8	473.5	131.6	(192.5)	1,431.1
Assets:						
Operating assets	526.6	520.2	340.4	171.5	3.9	1,562.6
Intangible assets, net	13,844.6	5,987.0	1,414.4	356.1	—	21,602.1
Other	173.1	65.1	108.2	71.6	442.1	860.1
Total						24,024.8
Capital expenditures	12.9	8.9	8.0	1.2	0.2	31.2
Capitalized software expenditures	16.3	1.4	—	—	—	17.7
Depreciation and other amortization	296.9	178.5	34.7	10.4	0.3	520.8
2019						
Net revenues	$ 1,588.0	$ 1,529.5	$ 1,596.4	$ 652.9	$ —	$ 5,366.8
Operating profit	405.4	538.5	501.1	225.8	(172.4)	1,498.4
Assets:						
Operating assets	382.2	472.0	347.0	205.7	4.4	1,411.3
Intangible assets, net	7,833.6	5,871.8	1,420.0	357.7	—	15,483.1
Other	168.5	62.5	120.4	69.0	794.1	1,214.5
Total						18,108.9
Capital expenditures	17.4	15.1	17.3	2.7	0.2	52.7
Capitalized software expenditures	9.7	0.5	—	—	—	10.2
Depreciation and other amortization	230.2	132.9	40.3	12.0	0.6	416.0
2018						
Net revenues	$ 1,452.7	$ 1,345.2	$ 1,705.6	$ 687.7	$ —	$ 5,191.2
Operating profit	358.0	484.4	523.9	233.6	(203.5)	1,396.4
Assets:						
Operating assets	392.6	338.3	336.2	196.4	6.1	1,269.6
Intangible assets, net	7,799.9	3,582.0	1,444.5	362.5	—	13,188.9
Other [1]	163.6	38.4	391.2	94.5	103.3	791.0
Total						15,249.5
Capital expenditures	19.0	8.3	15.4	6.3	0.1	49.1
Capitalized software expenditures	9.1	0.4	—	—	—	9.5
Depreciation and other amortization	212.8	98.1	42.6	12.7	0.8	367.0

[1] Includes Operating assets of $91.8 and Intangible assets, net of $159.4 associated with the Gatan business and Imaging businesses classified as held for sale on December 31, 2018.

Summarized data for Roper's U.S. and foreign operations (principally in Canada, Europe and Asia) for 2020, 2019 and 2018, based upon the country of origin of the Roper entity making the sale, was as follows:

	United States	Non-U.S.	Eliminations	Total
2020				
Sales to unaffiliated customers	$ 4,496.8	$ 1,030.3	$ —	$ 5,527.1
Sales between geographic areas	125.0	162.8	(287.8)	—
Net revenues	$ 4,621.8	$ 1,193.1	$ (287.8)	$ 5,527.1
Long-lived assets	$ 191.0	$ 33.0	$ —	$ 224.0
2019				
Sales to unaffiliated customers	$ 4,342.6	$ 1,024.2	$ —	$ 5,366.8
Sales between geographic areas	124.9	139.3	(264.2)	—
Net revenues	$ 4,467.5	$ 1,163.5	$ (264.2)	$ 5,366.8
Long-lived assets	$ 164.6	$ 33.2	$ —	$ 197.8
2018				
Sales to unaffiliated customers	$ 4,176.2	$ 1,015.0	$ —	$ 5,191.2
Sales between geographic areas	143.9	137.0	(280.9)	—
Net revenues	$ 4,320.1	$ 1,152.0	$ (280.9)	$ 5,191.2
Long-lived assets [1]	$ 145.2	$ 30.0	$ —	$ 175.2

[1] Excludes Long-lived assets of $7.6 associated with the Gatan business and Imaging businesses classified as held for sale on December 31, 2018.

Export sales from the U.S. during the years ended December 31, 2020, 2019 and 2018 were $401.8, $531.8 and $578.0, respectively. In the year ended December 31, 2020, these exports were shipped primarily to Asia (26%), Canada (25%), Europe (18%), Middle East (18%) and other (13%).

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, 2020, 2019 and 2018 are shown below by region, except for Canada, which is presented separately:

	Application Software	Network Software & Systems	Measurement &Analytical Solutions	Process Technologies	Total
2020					
Canada	$ 43.4	$ 76.2	$ 71.9	$ 24.8	$ 216.3
Europe	205.5	61.3	257.0	101.8	625.6
Asia	3.3	19.6	124.1	90.8	237.8
Middle East	6.6	39.8	18.5	35.8	100.7
Rest of the world	31.1	11.6	43.1	38.4	124.2
Total	$ 289.9	$ 208.5	$ 514.6	$ 291.6	$ 1,304.6
2019					
Canada	$ 41.0	$ 71.1	$ 81.4	$ 28.9	$ 222.4
Europe	188.8	36.7	307.2	113.8	646.5
Asia	3.5	18.8	185.0	108.0	315.3
Middle East	8.6	37.5	13.1	44.4	103.6
Rest of the world	25.8	9.5	45.3	55.2	135.8
Total	$ 267.7	$ 173.6	$ 632.0	$ 350.3	$ 1,423.6
2018					
Canada	$ 38.5	$ 58.5	$ 79.3	$ 35.0	$ 211.3
Europe	188.6	12.2	361.7	117.5	680.0
Asia	3.2	11.0	220.3	115.4	349.9
Middle East	4.7	48.6	14.4	34.4	102.1
Rest of the world	29.5	7.8	42.5	55.0	134.8
Total	$ 264.5	$ 138.1	$ 718.2	$ 357.3	$ 1,478.1

(14) 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.

(15) Contract Balances

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

Balance Sheet Account	2020	2019	Change
Unbilled receivables	$ 241.7	$ 183.5	$ 58.2
Contract liabilities - current [(1)]	(1,012.0)	(840.8)	(171.2)
Deferred revenue - non-current	(43.1)	(33.2)	(9.9)
Net contract assets/(liabilities)	$ (813.4)	$ (690.5)	$ (122.9)

[(1)] Consists of "Deferred revenue," and billings in-excess of revenues ("BIE"). BIE are reported in "Other accrued liabilities" in our Consolidated Balance Sheets.

The change in our net contract assets/(liabilities) from December 31, 2019 to December 31, 2020 was due primarily to the increase in our contract liabilities associated with the timing of payments and invoicing relating to SaaS and PCS renewals and the net contract liabilities associated with the acquisitions completed during the year ended December 31, 2020, of $78.2, partially offset by the increase in unbilled receivables associated with timing of invoicing in our project-based businesses, most notably our Transcore business.

Revenue recognized during the year ended December 31, 2020 and 2019 that was included in the contract liability balance on December 31, 2019 and 2018 was $804.4 and $674.2, 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 year ended December 31, 2020.

(16) 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, 2020, 2019 and 2018, the Company recognized $68.5, $65.9 and $66.9 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:

	2020	2019
Operating cash flows used for operating leases	$ 70.1	$ 66.7
Right-of-use assets obtained in exchange for operating lease obligations	66.1	60.4

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**	**2020**	**2019**
ASSETS:			
Operating lease ROU assets	Other assets	$ 265.0	$ 266.9
LIABILITIES:			
Current operating lease liabilities	Other accrued liabilities	$ 65.1	$ 56.8
Operating lease liabilities	Other liabilities	219.2	220.0
Total operating lease liabilities		$ 284.3	$ 276.8

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

2021	$ 71.7
2022	56.0
2023	46.8
2024	37.0
2025	29.9
Thereafter	68.2
Total operating lease payments	309.6
Less: Imputed interest	25.3
Total operating lease liabilities	$ 284.3

Weighted average remaining lease term - operating leases (years)	6
Weighted average discount rate (%)	2.9

(17) Quarterly Financial Data (unaudited)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
2020				
Net revenues	$ 1,350.7	$ 1,305.0	$ 1,366.1	$ 1,505.3
Gross profit	856.8	843.7	875.9	966.6
Income from operations	349.2	333.6	367.6	380.7
Net earnings	240.3	219.2	234.4	255.8
Earnings per share:				
Basic	$ 2.30	$ 2.10	$ 2.24	$ 2.44
Diluted	$ 2.28	$ 2.08	$ 2.21	$ 2.41
2019				
Net revenues	$ 1,287.2	$ 1,330.3	$ 1,354.5	$ 1,394.8
Gross profit	810.6	850.0	873.6	892.9
Income from operations	346.4	368.4	385.2	398.4
Net earnings	369.6	249.7	277.5	871.1
Earnings per share:				
Basic	$ 3.57	$ 2.40	$ 2.67	$ 8.37
Diluted	$ 3.53	$ 2.38	$ 2.64	$ 8.28

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, 2020, 2019 and 2018

	Balance at beginning of year	Additions charged to costs and expenses	Deductions	Other	Balance at end of year
			(in millions)		
Allowance for doubtful accounts and sales allowances					
2020	$ 20.3	$ 11.7	$ (10.2)	$ 7.3	$ 29.1
2019	23.1	8.4	(7.9)	(3.3)	20.3
2018	12.7	11.9	(7.3)	5.8	23.1
Reserve for inventory obsolescence					
2020	$ 33.4	$ 9.6	$ (3.9)	$ 1.3	$ 40.4
2019	30.3	6.3	(3.2)	—	33.4
2018	38.1	6.7	(4.5)	(10.0)	30.3

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, 2020. Our internal control over financial reporting as of December 31, 2020 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 six acquisitions completed during 2020 from its assessment of internal control over financial reporting as of December 31, 2020. 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 1%, and whose aggregate total revenues represent 4% of the related Consolidated Financial Statement amounts as of and for the year ended December 31, 2020.

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, 2020.

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 2020 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

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 ("2021 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 2021 Proxy Statement.

Information regarding our audit committee, code of ethics, executive officers and compliance with Section 16(a) of the Exchange Act is contained in the 2021 Proxy Statement under the captions "Corporate Governance," "Board Committees and Meetings," and "Delinquent Section 16(a) Reports."

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.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this *Item 11 - Executive Compensation* is contained in the 2021 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 2021 Proxy Statement under the caption "Beneficial Ownership."

Securities Authorized for Issuance under Equity Compensation Plans

The following table provides information as of December 31, 2020 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	3.366	$ 255.32	
Restricted stock awards [2]	0.601	—	
Subtotal	3.967		3.254
Equity Compensation Plans Not Approved by Shareholders	—	—	—
Total	3.967	$ —	3.254

(1) Consists of the Amended and Restated 2006 Incentive Plan (no additional equity awards may be granted under this plan) and 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 2021 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 2021 Proxy Statement under the captions “Proposal 3 - Ratification of Selection of Independent Registered Public Accounting Firm,” “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, 2020 and 2019

Consolidated Statements of Earnings for the Years ended December 31, 2020, 2019 and 2018

Consolidated Statements of Comprehensive Income for the Years ended December 31, 2020, 2019 and 2018

Consolidated Statements of Stockholders' Equity for the Years ended December 31, 2020, 2019 and 2018

Consolidated Statements of Cash Flows for the Years ended December 31, 2020, 2019 and 2018

Notes to Consolidated Financial Statements

(2) Consolidated Valuation and Qualifying Accounts for the Years ended December 31, 2020, 2019 and 2018

(b) Exhibits

Exhibit No.	Description of Exhibit
(a)2.1	Agreement and Plan of Merger, dated as of August 5, 2019, by and among iPipeline Holdings, Inc., Roper Technologies, Inc., Project Purpose Merger Sub, Inc. and Thoma Bravo, LLC, as representative of the stockholders and optionholders of iPipeline Holdings, Inc.
(b)2.2	Agreement and Plan of Merger by and among Roper Technologies, Inc., Project V Merger Sub Inc. and Project Viking Holdings, Inc., dated August 12, 2020.
(c)3.1	Restated Certificate of Incorporation as amended through April 24, 2015.
(d)3.2	Amended and Restated By-Laws.
(e)4.1	Indenture between Registrant and Wells Fargo Bank, dated as of August 4, 2008.
(f)4.2	Indenture between Registrant and Wells Fargo Bank, dated as of November 26, 2018.
(g)4.3	Form of Note.
(h)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).
(i)4.6	Form of 3.125% Senior Notes due 2022.
(j)4.7	Form of 3.850% Senior Notes due 2025.
(k)4.8	Form of 2.800% Senior Notes due 2021.
4.9	Form of 3.800% Senior Notes due 2026 (included in Exhibit 4.8).
(l)4.10	Form of 2.350% Senior Notes due 2024.
4.11	Form of 2.950% Senior Notes due 2029 (included in Exhibit 4.10).
(m)4.12	Form of 2.000% Senior Notes due 2030.
(n)4.13	Form of 0.450% Senior Notes due 2022.
4.14	Form of 1.000% Senior Notes due 2025 (included in Exhibit 4.13).
4.15	Form of 1.400% Senior Notes due 2027 (included in Exhibit 4.13).
4.16	Form of 1.750% Senior Notes due 2031 (included in Exhibit 4.13).
(o)4.17	Description of Registrant’s Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934.
(p)10.1	Form of Amended and Restated Indemnification Agreement. †
(q)10.2	Employee Stock Purchase Plan, as amended and restated. †
(r)10.3	Non-Qualified Retirement Plan, as amended. †
(s)10.4	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.
(t)10.5	Amended and Restated 2006 Incentive Plan. †
(u)10.6	Form of Restricted Stock Agreement for Non-Employee Directors. †
(u)10.7	Form of Restricted Stock Agreement for Employees. †
(u)10.8	Form of Non-Statutory Stock Option Agreement. †
(v)10.9	Offer letter to John K. Stipancich. †
(w)10.10	Form of director and officer indemnification agreement. †
(x)10.11	2016 Incentive Plan. †
(y)10.12	Amendment No. 1 to the 2016 Incentive Plan.†
(z)10.13	Form of Cash Settled Restricted Stock Unit Award Agreement for Non-US Employees, under the 2016 Incentive Plan. †
(aa)10.14	Form of Non-Statutory Stock Option Agreement, under the 2016 Incentive Plan.†
(bb)10.15	Form of Restricted Stock Award Agreement, under the 2016 Incentive Plan.†
(cc)10.16	Form of Performance Based Restricted Stock Award Agreement, under the 2016 Incentive Plan.†
(dd)10.17	Director Compensation Plan, under 2016 Incentive Plan. †
10.18	Form of Restricted Stock Unit Award Agreement for Non-Employee Directors, under the 2016 Incentive Plan (included in Exhibit 10.17).
(ee)10.19	First Amendment to the Roper Technologies, Inc. Director Compensation Plan.
(ff)10.20	Second Amendment to the Roper Technologies, Inc. Director Compensation Plan.
(gg)10.21	Third Amendment to the Roper Technologies, Inc. Director Compensation Plan.
(hh)10.22	Offer Letter to Neil Hunn. †

(ii)10.23	Long-Term Incentive Opportunity Agreement for Neil Hunn. †
(jj)10.24	Retirement Agreement and General Release, dated February 1, 2019, by and between the Company and Paul Soni. †
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 Roper Technologies, Inc. Current Report on Form 8-K filed August 19, 2019 (file no. 1-12273).
b)	Incorporated herein by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K filed on August 13, 2020 (file no. 1-12273).
c)	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).
d)	Incorporated herein by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed June 10, 2020 (file no. 1-12273).
e)	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).
f)	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).
g)	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).
h)	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).
i)	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).
j)	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).
k)	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).
l)	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).
m)	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).
n)	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).
o)	Incorporated herein by reference to Exhibit 4.17 to the Company's Annual Report on Form 10-K filed February 28, 2020 (file no. 1-12273).
p)	Incorporated herein by reference to Exhibit 10.04 to the Company's Quarterly Report on Form 10-Q filed August 31, 1999 (file no. 1-12273).
q)	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).
r)	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).
s)	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).
t)	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).
u)	Incorporated herein by reference to Exhibits 10.2, 10.3 and 10.4 to the Company's Current Report on Form 8-K filed December 6, 2006 (file no. 1-12273).
v)	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).
w)	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).
x)	Incorporated by reference to Appendix B to the Company's Definitive Proxy Statement on Schedule 14A filed April 26, 2016 (file no. 1-12273).
y)	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).
z)	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).
aa)	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).
bb)	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).
cc)	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).
dd)	Incorporated by reference to Exhibit 10.2 to the Company's Form 10-Q filed August 5, 2016 (file no. 1-12273).
ee)	Incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed May 4, 2018 (file no. 1-12273).
ff)	Incorporated by reference to Exhibit 10.1 to the Company's Form 10-Q filed August 2, 2019 (file no. 1-12273).
gg)	Incorporated herein by reference to Appendix B to the Company's Definitive Proxy Statement on Schedule 14A filed April 24, 2020 (file no. 1-12273).
hh)	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).
ii)	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).
jj)	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).
†	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	February 22, 2021
	L. Neil Hunn, President and Chief Executive Officer	

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	President and Chief Executive Officer	
L. Neil Hunn	(Principal Executive Officer)	February 22, 2021
/s/ ROBERT C. CRISCI	Executive Vice President and Chief Financial Officer	
Robert C. Crisci	(Principal Financial Officer)	February 22, 2021
/s/ JASON P. CONLEY	Vice President and Controller	
Jason P. Conley	(Principal Accounting Officer)	February 22, 2021
/s/ WILBUR J. PREZZANO		
Wilbur J. Prezzano	Chairman of the Board of Directors	February 22, 2021
/s/ SHELLYE L. ARCHAMBEAU		
Shellye L. Archambeau	Director	February 22, 2021
/s/ AMY WOODS BRINKLEY		
Amy Woods Brinkley	Director	February 22, 2021
/s/ JOHN F. FORT, III		
John F. Fort, III	Director	February 22, 2021
/s/ ROBERT D. JOHNSON		
Robert D. Johnson	Director	February 22, 2021
/s/ LAURA G. THATCHER		
Laura G. Thatcher	Director	February 22, 2021
/s/ RICHARD F. WALLMAN		
Richard F. Wallman	Director	February 22, 2021
/s/ CHRISTOPHER WRIGHT		
Christopher Wright	Director	February 22, 2021