CABOT CORPORATION

ANNUAL REPORT 2021

CABOT

OUR PURPOSE

Creating materials that improve daily life and enable a more sustainable future.

Driving materials innovation

Supporting our customers

Creating a more sustainable world

OUR STRATEGY
Creating for Tomorrow
Grow
Innovate
Optimize

OUR VALUES
Integrity
Respect
Excellence
Responsibility

OUR OPERATING PLATFORM
Operational Excellence
Technology Leadership
Commercial Excellence
Global Business Services
Functional Excellence

CABOT

Cabot Corporation is a leading global specialty chemicals and performance materials company headquartered in Boston, Massachusetts, USA, that has delivered innovative performance solutions to customers for over 135 years and employs approximately 4,500 people.

Our employees around the world are united by our shared purpose: creating materials that improve daily life and enable a more sustainable future. As a market leader, we continually extend the boundaries of what's possible, leveraging our team's expertise and the latest technology to create materials that deliver new levels of performance and efficiency. We collaborate with customers worldwide to develop solutions that give them a competitive advantage and enable them to create innovative products that enhance peoples' lives, while also helping them achieve their sustainability goals and those of their customers. We are also committed to reducing our own environmental impact while delivering materials that can enable dramatic improvements in energy efficiency, resource conservation and waste reduction.

OUR BUSINESS SEGMENTS

REINFORCEMENT MATERIALS

Reinforcing Carbons, Engineered Elastomer Composites

Products to reinforce and optimize the performance of rubber products including: tires, hoses, belts, molded goods

PERFORMANCE CHEMICALS

Specialty Carbons, Battery Materials, Fumed Metal Oxides, Aerogel, Specialty Compounds, Inkjet

Specialty additives that enable performance in: adhesives and sealants, batteries, building construction materials, coatings, composites, electronics, industrial insulation, inkjet printing, inks, plastics, silicones, toners, wire and cable

A MESSAGE TO OUR SHAREHOLDERS

Sean D. Keohane
President and
Chief Executive Officer

Dear Fellow Shareholders:

There is an old saying that in every crisis lies an opportunity. While the impact of the COVID-19 pandemic was unrelenting in 2021, as I look across our businesses and growth opportunities, I feel the company is better positioned than ever before.

We believe the foundation for our success is grounded in our purpose — to create materials that improve daily life and enable a more sustainable future. Powered by this shared purpose, our teams not only demonstrated their adaptability and resilience in a difficult external environment, but also found ways to turn challenges into opportunities and achieve exceptional fiscal 2021 results.

EXECUTING ON OUR GROWTH STRATEGY

Staying committed to a strategy in times of volatility and uncertainty can be difficult. Despite the challenges presented by the pandemic, we made notable progress against our strategy driven by our strong execution capability, our focus on commercial and operational excellence, and our commitment to delivering results.

We delivered record results in fiscal 2021, with adjusted EPS of $5.02[1] and discretionary free cash flow of $353 million[1]. We also executed on important growth investments that we believe will capitalize on compelling macrotrends and enable continued momentum from this new level of earnings. Our growth investments are focused on building from positions of strength, in areas that we believe have the most potential to create value and where we have a unique ability to win.

A great example of our growth investments at work is in Battery Materials, where fiscal year 2021 represented a breakout year. Our unmatched portfolio of conductive carbon additives for lithium-ion batteries, combined with our global footprint and strong customer focus, resulted in a doubling of revenue year-over-year. Industry growth is expected to exceed 30% per year through 2030 driven by the sustainability trend to electrify mobility, and we are excited about the potential of this application to create significant earnings and value for our shareholders. In addition, our Inkjet product line is poised to capitalize on the transition to digital printing across a range of industrial printing applications. The business achieved multiple original equipment manufacturer (OEM) qualifications for packaging applications in 2021 that we expect to underpin our growth in this large market. Finally, we advanced numerous capital efficient and advantaged capacity projects across our established product lines to support revenue growth in the coming years.

[1] Non-GAAP measure. For definitions and reconciliation to the most directly comparable U.S. GAAP measure, see supplemental information for Non-GAAP Reconciliations located at cabotcorp.com/investors under Financial Information.

ADVANCING SUSTAINABILITY

Sustainability is at the very heart of how we run our company and is embedded in our purpose. We recognize that for a company to realize enduring success, the needs of our broad stakeholders must be balanced. We strive to advance across all dimensions of our sustainability framework and made important progress in 2021. Though there is much to highlight, a few key activities are noteworthy:

- The selection by *Newsweek* to their America's Most Responsible Companies 2021 list and recognition from *Investor's Business Daily* as one of the 100 Best ESG Companies of 2021.
- As one of the inaugural sponsors of the Future of STEM Scholars Initiative (FOSSI), an industry-lead initiative, we are helping to create pathways for students at historically black colleges and universities to enter and succeed in STEM careers within the chemical industry.
- We achieved a platinum rating from EcoVadis, the world's largest provider of business sustainability ratings.
- The completion of a major air emissions control project at our carbon black manufacturing facility in Franklin, Louisiana — ensuring that we can support our customers' supply needs in the long-term while substantially eliminating nitrogen oxides (NO_X) and sulfur dioxide (SO_2) emissions. We are also recovering waste heat which is used to generate up to 50 megawatts of cogeneration power without creating any additional emissions.

We also further advanced our commitment to transparency. In addition to reporting against the Sustainability Accounting Standards Board (SASB) and the Global Reporting Initiative (GRI) frameworks, we took steps to further enhance our environment, social and governance (ESG) disclosures by committing to align with the recommendations of the Task Force for Climate-related Financial Disclosure (TCFD). We engaged a third party to help us evaluate climate risks and opportunities following the TCFD guidelines and the results of this assessment are published on our website. Furthermore, we recently announced that we are working to align our sustainability agenda with the Paris Climate Agreement to achieve net zero emissions by 2050 and intend to follow the methodology established by the Science Based Targets Initiative (SBTi) to set interim greenhouse gas reduction targets.

"We believe the foundation for our success is grounded in our purpose — to create materials that improve daily life and enable a more sustainable future."

LOOKING AHEAD

At our recent 2021 Investor Day, we introduced the next phase of our corporate strategy *"Creating for Tomorrow"*. Through this new strategy, we will focus on our core strengths to lead in performance and sustainability — today and into the future.

Our strategy is underpinned by three pillars: Grow, Innovate and Optimize. By executing our strategy, we expect to deliver strong financial performance and create breakout value for our shareholders. An early example of our strategy in action is our recently announced agreement to acquire the Tokai Carbon (Tianjin) facility in China, where we intend to make technology investments to enable further capacity for our Battery Materials growth vector.

FINAL THOUGHTS

I am very proud of our accomplishments this year and excited about our future. Looking ahead, I am confident that we have a winning formula — a talented team, a leading portfolio of businesses set for growth, a culture of sustainability, and a strong balance sheet. With this foundation, I believe the potential for value creation is great.

Despite the many challenges presented by the pandemic, we achieved enormous success driven by our strong culture and our commitment to working together as a team. I would like to extend my gratitude to all our employees around the world for their resilience, dedication, and commitment to our purpose.

I would also like to thank our shareholders for the trust you have placed in us. We strive to create differentiated long-term value by driving:

- Global leadership in our chosen chemistries
- Sustainability in all that we do
- A track record of disciplined execution and earnings growth
- Strong cash flow generation to fund advantaged growth investments and return excess capital to shareholders

As we navigate through these uncertain times, you can be sure that we remain driven by our purpose and committed to the disciplined execution of our strategy.

Wishing you good health.

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 September 30, 2021

or

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

For the transition period from to

Commission File Number 1-5667

Cabot Corporation

(Exact name of Registrant as specified in its Charter)

Delaware	**04-2271897**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*
Two Seaport Lane, Suite 1400 Boston, Massachusetts	**02210**
(Address of Principal Executive Offices)	*(Zip Code)*

Registrant's telephone number, including area code: (617) 345-0100

Securities registered pursuant to Section 12(b) of the Securities Exchange Act of 1934:

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Common Stock, $1 par value per share	CBT	The New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Securities Exchange Act of 1934: None.

Indicate by check mark if the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes ☒ No ☐

Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act.

Yes ☐ No ☒

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

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

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

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
		Emerging growth company	☐

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

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

Indicate by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes ☐ No ☒

As of the last business day of the Registrant's most recently completed second fiscal quarter (March 31, 2021), the aggregate market value of the Registrant's common stock held by non-affiliates was $2,956,431,066. As of November 15, 2021, there were 56,803,284 shares of the Registrant's common stock outstanding.

Portions of the Registrant's definitive proxy statement for its 2022 Annual Meeting of Shareholders are incorporated by reference into Part III of this report.

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Information Relating to Forward-Looking Statements

This annual report on Form 10-K contains “forward-looking statements” under the Federal securities laws. These forward-looking statements address expectations or projections about the future, including our expectations regarding our future business performance and overall prospects; segment growth and the assumptions underlying our growth expectations; demand for our products; when we expect to close the sale of our Purification Solutions business, the amount of the cash proceeds we expect to receive upon the closing of the transaction and the amount of the impairment charge we will record in the first quarter of fiscal 2022 in connection with the transaction; research and development activities; the recommencing of work on our Cilegon, Indonesia plant expansion for reinforcing carbons, and the resumption of activities at our facility in Pepinster, Belgium; when we expect production of specialty carbons to begin at our new facility in Jiangsu Province, China; when we expect to complete our new specialty compounds unit at our plant in Cilegon, Indonesia; when we expect to close our purchase from Tokai Carbon Group of its carbon black facility in Tianjin, China and when we expect the conversion of the first unit at the site to be completed; the timing of payments for costs associated with reorganization actions; the sufficiency of our cash on hand, cash provided from operations and cash available under our credit and commercial paper facilities to fund our cash requirements; our plans to refinance the 3.7% Notes that mature in July 2022; anticipated capital spending, including environmental-related and technology controls capital expenditures; regulatory developments; restructuring and transformation plan charges and charges related to flooding at our Pepinster, Belgium facility; cash requirements and uses of available cash, including future cash outlays associated with long-term contractual obligations, restructurings, contributions to employee benefit plans, environmental remediation costs and future respirator liabilities and the timing of such outlays; exposure to interest rate and foreign exchange risk; future benefit plan payments we expect to make; future amortization expenses; our ability to recover deferred tax assets; our operating tax rate; and the possible outcome of legal and environmental proceedings, and value-added tax matters. From time to time, we also provide forward-looking statements in other materials we release to the public and in oral statements made by authorized officers.

Forward-looking statements are not guarantees of future performance and are subject to risks, uncertainties, potentially inaccurate assumptions, and other factors, some of which are beyond our control or difficult to predict. If known or unknown risks materialize, our actual results could differ materially from past results and from those expressed in the forward-looking statements. Important factors that could cause our actual results to differ materially from those expressed in our forward-looking statements are described in Item 1A in this report.

We undertake no obligation to publicly update forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law. Investors are advised, however, to consult any further disclosures we make on related subjects in our 10-Q and 8-K reports filed with the Securities and Exchange Commission (the “SEC”).

PART I

Item 1. *Business*

General

Cabot is a global specialty chemicals and performance materials company headquartered in Boston, Massachusetts. Our principal products are reinforcing and specialty carbons, specialty compounds, fumed metal oxides, activated carbons, inkjet colorants, and aerogel. Cabot and its affiliates have manufacturing facilities and operations in the United States ("U.S.") and over 20 other countries. Cabot's business was founded in 1882 and incorporated in the State of Delaware in 1960. The terms "Cabot", "Company", "we", and "our" as used in this report refer to Cabot Corporation and its consolidated subsidiaries.

Our "advancing the core" corporate strategy is to extend our leadership in performance materials by investing for growth in our core businesses, driving application innovation with our customers, and generating strong cash flows through efficiency and optimization. Our products are generally based on technical expertise and innovation in one or more of our four core competencies: making and handling very fine particles; modifying the surfaces of very fine particles to alter their functionality; designing particles to impart specific properties to a formulation; and combining particles with other ingredients to deliver a formulated performance intermediate or composite. We focus on creating particles, and formulations of those particles, with the composition, morphology, and surface functionalities to deliver the requisite performance to support our customers' existing and emerging applications.

Our business is organized into three reportable segments: Reinforcement Materials; Performance Chemicals; and Purification Solutions. On November 25, 2021, we entered into an agreement to sell our Purification Solutions business, which we expect to close in the second quarter of fiscal 2022. Upon the consummation of this transaction, our business will be organized into two reportable segments. Our business segments are discussed in more detail later in this section.

Our internet address is www.cabotcorp.com. We make available free of charge on or through our website our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 as soon as reasonably practicable after electronically filing such material with, or furnishing it to, the SEC. Information appearing on our website is not a part of, and is not incorporated in, this Annual Report on Form 10-K.

Reinforcement Materials

Products

Carbon black is a form of elemental carbon that is manufactured in a highly controlled process to produce particles and aggregates of varied structure and surface chemistry, resulting in many different performance characteristics for a wide variety of applications. Reinforcing carbons (a class of carbon blacks manufactured by Cabot) are used to enhance the physical properties of the systems and applications in which they are incorporated.

Our reinforcing carbons products are used in tires and industrial products. Reinforcing carbons have traditionally been used in the tire industry as a rubber reinforcing agent to increase tread durability and are also used as a performance additive to reduce rolling resistance and improve traction. In industrial products such as hoses, belts, extruded profiles and molded goods, reinforcing carbons are used to improve the physical performance of the product, including the product's physical strength, fluid resistance, conductivity and resistivity.

In addition to our reinforcing carbons, we manufacture engineered elastomer composites ("E2C™") solutions that are composites of reinforcing carbons and rubber made using our patented elastomer composites manufacturing process. These composites improve abrasion/wear resistance, reduce fatigue of rubber parts and reduce rolling resistance compared to reinforcing carbons/rubber compounds made entirely by conventional rubber mix methods enabling rubber product manufacturers to reduce the need to make performance trade-offs. Additionally, because E2C™ solutions can be integrated into current product methods without additional significant capital investment, and require fewer mixing stages, lower mixing temperatures and shorter mixing cycles than conventional products, operating and production costs may be reduced.

Drivers of Demand and Sales and Customers

Demand for our Reinforcement Materials products is largely driven by the growth and development of the tire and automotive industries. In addition to general global economic conditions, demand for reinforcing carbons in tires is mainly influenced by the number of replacement and original equipment tires produced, which in turn is driven by (i) vehicle and driving trends, including the number of miles driven, and the number of vehicles produced and registered, (ii) demand for high-performance tires, (iii) demand for larger tires and larger vehicles, such as trucks, buses, off-road vehicles used in agriculture, mining and similar vehicles, (iv) consumer and industrial spending on new vehicles and (v) changes in regulatory requirements impacting vehicle fuel efficiency and tire regulations. Demand for reinforcing carbons for industrial products is mainly influenced by vehicle production and design trends, construction activity and general industrial production.

Demand in the developed Western European, Japanese, and North American regions is mainly driven by demographic changes, customers' high-quality requirements, stringent tire regulation standards, changes in consumer preference (e.g., different tire sizes, model and powertrain types), and relatively stable tire replacement demand. Demand in developing markets, such as China, Southeastern Asia, South America and Eastern Europe, is mainly driven by the growing middle class, rapid industrialization, infrastructure spending and increasing car ownership trends. The growth in vehicle production in turn drives demand for both original equipment tires and replacement tires in developing regions.

Sales of reinforcing carbons and E2C™ solutions are made primarily by Cabot employees and secondarily through distributors and sales representatives. Sales to five major tire customers represent a material portion of Reinforcement Materials' total net sales and operating revenues. The loss of any of these customers, or a significant reduction in volumes sold to them, could have a material adverse effect on the segment.

Under appropriate circumstances, we have entered into supply arrangements with certain customers, the typical duration of which is one year. These arrangements typically provide for sales price adjustments to account for changes in relevant feedstock indices and, in many cases, changes in other relevant costs (such as the cost of natural gas). In fiscal 2021, approximately 60% of our reinforcing carbons volume was sold under these supply arrangements. The majority of the volumes sold under these arrangements are sold to customers in the Americas and Europe.

We licensed our patented elastomer composites manufacturing process to Manufacture Francaise des Pneumatiques Michelin for their exclusive use in tire applications through fiscal 2017, and for a period of limited exclusivity in tire applications through fiscal 2019. As consideration, we receive quarterly royalty payments extending through calendar year 2022.

Much of the reinforcing carbons we sell is used in tires and automotive products and, therefore, our financial results may be affected by the cyclical nature of the automotive industry. However, a large portion of the market for our products is in replacement tires that historically have been less subject to automotive industry cycles.

Competition

We are one of the leading manufacturers of carbon black in the world. We compete in the sale of reinforcing carbons with four companies that operate globally and numerous other companies that operate regionally, a number of which export product outside their region. Competition for our Reinforcement Materials products is based on product performance, quality, reliability, price, service, technical innovation, and logistics. We believe our product differentiation, technological leadership, global manufacturing presence, operations and logistics excellence and customer service provide us with a competitive advantage.

Raw Materials

The principal raw material used in the manufacture of our reinforcing carbons is composed of residual heavy oils derived from petroleum refining operations, the distillation of coal tars, and the production of ethylene throughout the world. Natural gas is also used in the production of our reinforcing carbons. Raw materials are, in general, readily available and in adequate supply. Raw material costs generally are influenced by the availability of various types of our feedstocks and natural gas, supply and demand of such raw materials and related transportation costs.

Operations

We own, or have a controlling interest in, and operate plants that produce reinforcing carbons in Argentina, Brazil, Canada, China, Colombia, the Czech Republic, France, Indonesia, Italy, Japan, Mexico, the Netherlands and the U.S. An equity affiliate operates a reinforcing carbons plant in Venezuela. In addition, we have a 98% ownership interest in an entity that manufactures our E2C™ products in Port Dickson, Malaysia.

The following table shows our ownership interest as of September 30, 2021 in segment operations in which we own less than 100%:

Location	**Percentage Interest**
Shanghai, China	70% (consolidated subsidiary)
Tianjin, China	70% (consolidated subsidiary)
Xingtai City, China	60% (consolidated subsidiary)
Valasske Mezirici (Valmez), Czech Republic	52% (consolidated subsidiary)
Cilegon, Indonesia	98% (consolidated subsidiary)
Port Dickson,Malaysia	98% (consolidated subsidiary)
Valencia, Venezuela	49% (equity affiliate)

During fiscal 2019, we began engineering work on an expansion of our Cilegon, Indonesia plant, which would have added approximately 90,000 metric tons of capacity to our network. In fiscal 2020, after a review of our capital allocation priorities, we temporarily suspended further work on this expansion and currently expect to recommence work on this project at a later time.

One of the main environmental challenges of a carbon black plant is the management of exhaust gas from production processes. This exhaust gas contains a number of regulated pollutants, including carbon monoxide and sulfur compounds. Our most common method for controlling these gases is through combustion, which produces useable energy as a by-product. Currently, nine reinforcing carbons and three reinforcing carbons/specialty carbons manufacturing sites have energy centers, which allow us to utilize these gases through some form of energy co-generation, such as the sale or reuse of steam, gas or electricity. Depending on our capacity utilization, our energy centers generally reduce our manufacturing operating costs.

Performance Chemicals

Our Performance Chemicals reporting segment is organized into two businesses: our Performance Additives business and our Formulated Solutions business. Our Performance Additives business combines our specialty carbons, including battery materials, fumed metal oxides and aerogel product lines, and our Formulated Solutions business combines our specialty compounds and inkjet product lines.

In Performance Chemicals, we design, manufacture and sell materials that deliver performance in a broad range of customer applications across the automotive, construction, infrastructure, inkjet printing, electronics, and consumer products sectors and in applications related to the generation, transmission and storage of energy. Our focus areas for growth include carbon additives and other materials for battery applications (which materials we currently refer to as our "Battery Materials", and formerly referred to as "Energy Materials"), inkjet dispersions for post print corrugated packaging applications, and conductive compounds and concentrates for various plastics applications. The investments we have made for growth in this segment, including in respect of these specific areas of focus, are described below under the heading "Operations".

Products

Performance Additives Business

Carbon black is a form of elemental carbon that is manufactured in a highly controlled process to produce particles and aggregates of varied structure and surface chemistry, resulting in many different performance characteristics for a wide variety of applications.

Our specialty carbons are used to impart color, provide rheology control, enhance conductivity and static charge control, provide UV protection, enhance mechanical properties, and provide formulation flexibility through surface treatment. These specialty carbon products are used in a wide variety of applications, such as plastics, which applications represent the largest use for our products, inks, coatings, adhesives, toners, batteries, and displays.

Our Battery Materials applications include our conductive carbon additives (carbon black and carbon nanotubes) and fumed metal oxides, which are used principally in advanced lead acid and lithium-ion batteries used in electric vehicles. In lithium-ion batteries, our conductive carbon additives are used in both cathode and anode applications to enable enhanced energy density over longer cycle life.

Fumed silica is an ultra-fine, high-purity particle used as a reinforcing, thickening, abrasive, thixotropic, suspending or anti-caking agent in a wide variety of products for the automotive, construction, microelectronics, batteries, and consumer products industries. These products include adhesives, sealants, cosmetics, batteries, inks, toners, silicone elastomers, coatings, polishing slurries and pharmaceuticals. Fumed alumina, also an ultra-fine, high-purity particle, is used as an abrasive, absorbent or barrier agent in a variety of products, such as inkjet media, lighting, coatings, cosmetics and polishing slurries.

Aerogel is a hydrophobic, silica-based particle with a high surface area that is used in a variety of thermal insulation and specialty chemical applications. In the building and construction industry, the product is used in insulative sprayable plasters and composite building products, as well as translucent skylight, window, wall and roof systems for insulating eco-daylighting applications. In the specialty chemicals industry, the product is used to provide matte finishing, insulating and thickening properties for use in a variety of applications.

Formulated Solutions Business

Our masterbatch and conductive compound products, which we refer to as "specialty compounds", are formulations derived from specialty carbons mixed with polymers and other additives. These products are generally used by plastic resin producers and converters in applications for the automotive, industrial, packaging, infrastructure, agriculture, consumer products, and electronics industries. As an alternative to directly mixing specialty carbon blacks, these formulations offer greater ease of handling and help customers achieve their desired levels of dispersion and color and manage the addition of small doses of additives. In addition, our electrically conductive compound products generally are used to help ensure uniform conductive performance and reduce risks associated with electrostatic discharge in plastics applications.

Our inkjet colorants are high-quality pigment-based black and color dispersions and inks. Our dispersions are based on our patented pigment surface modification technology and polymer encapsulation technology. The dispersions are used in aqueous inkjet inks to impart color, sharp print characteristics and durability, while maintaining high printhead reliability. These products are used in various inkjet printing applications, including traditional work-from-home and corporate office settings, and, increasingly, in commercial and corrugated packaging, that all require a high level of dispersibility and colloidal stability. Our inkjet inks, which utilize our pigment-based colorant dispersions, are used in the commercial printing segment for digital print.

Drivers of Demand and Sales and Customers

Our specialty carbons products have a wide variety of end-uses and demand is largely driven by the growth and development of the construction and infrastructure, automotive, electronics and consumer products industries. Demand for our conductive carbon additives for use in batteries is largely driven by the trend in electrification of vehicles. Demand for fumed silica is mainly influenced by trends in key markets for silicones, adhesives and coatings applications, notably, structural adhesives for automobile light-weighting, epoxy bonding paste for wind turbines, high-performance coatings and hybrid sealants for construction and silicones for medical devices and the proliferation of electronics. Demand for specialty compounds is mainly influenced by growth and development of the automotive, infrastructure, consumer goods and electronical and electronic devices, packaging and agriculture industries.

Demand for our inkjet colorants is mainly influenced by developments in print media, pages printed in office and work-from-home environments, as well as press sales and utilization levels as digital aqueous pigment-based inks penetrate commercial and packaging applications historically served by analog printing methods.

Sales of these products are made by Cabot employees and through distributors and sales representatives. In our specialty carbons and specialty compounds product lines, sales are generally to a broad number of customers. In our fumed metal oxides product line, sales under contracts with six customers account for approximately one-third of the revenue.

Competition

We are a leading producer of the products we sell in this segment. We compete in the sale of carbon black with four companies that operate globally and numerous other companies that operate regionally, a number of which export product outside their region. For battery applications, we produce conductive carbon and carbon nanotubes for both lithium ion and lead acid batteries. For battery applications, we compete primarily with two companies that operate globally that manufacture conductive carbon additives and we compete primarily with one China-based company that manufactures carbon nanotubes. For fumed silica, we compete primarily with two companies with a global presence and several other companies which have a regional presence. For aerogel, we compete principally with one other company that produces aerogel products. We also compete with non-aerogel insulation products manufactured by regional companies throughout the world. For specialty compounds, we compete with many regional companies and a small number of global companies. Our inkjet colorants and inks are designed to replace traditional pigment dispersions and dyes used in inkjet printing applications. Competitive products for inkjet colorants are organic dyes and other dispersed pigments manufactured and marketed by large chemical companies and small independent producers.

Competition for our Performance Chemicals products is based on product performance, quality, reliability, service, technical innovation and price. We believe our product differentiation, technological leadership, operations excellence and customer service provide us with a competitive advantage.

Raw Materials

Raw materials for our products are, in general, readily available and in adequate supply. The principal raw material used in the manufacture of our specialty carbons is composed of residual heavy oils derived from petroleum refining operations, the distillation of coal tars, and the production of ethylene throughout the world. Natural gas is also used in the production of our specialty carbons. These raw material costs generally are influenced by the availability of various types of our feedstocks and natural gas, supply and demand of such raw materials and related transportation costs. Changes in certain of our raw material supplier's operating conditions could reduce the availability of certain very specialized feedstocks.

Raw materials for the production of fumed silica are various chlorosilane feedstocks. We purchase feedstocks and for certain customers convert their feedstock to product on a fee-basis (so called "toll conversion"). We also purchase aluminum chloride as feedstock for the production of fumed alumina. We have long-term procurement contracts or arrangements in place for the purchase of fumed silica feedstock primarily from fence-line partners, which we believe will enable us to meet our raw material requirements for the foreseeable future. In addition, we buy some raw materials in the spot market to help ensure flexibility and minimize costs. The principal raw materials for the production of aerogel are silica sol and/or sodium silicate.

The primary raw materials used for our specialty compounds include carbon black, primarily sourced from our carbon black plants, prime and recycled thermoplastic resins and mineral fillers supplied from various sources. Raw materials for inkjet colorants include carbon black sourced from our carbon black plants, organic pigments and other treating agents available from various sources. Raw materials for inkjet inks include pigment dispersions, solvents and other additives.

Operations

We own, or have a controlling interest in, and operate plants that produce specialty carbons primarily in China, the Netherlands and the U.S. We also own, or have a controlling interest in, manufacturing plants that produce fumed metal oxides in China, Germany, the United Kingdom ("U.K"), and the U.S. and a manufacturing plant that produces aerogel in Frankfurt, Germany. An equity affiliate operates a fumed metal oxides plant in India. Our specialty compounds are predominately produced in facilities that we own, or have a controlling interest in, located in Belgium, Canada, China and the United Arab Emirates. Our inkjet colorants and inks are manufactured at our facility in the U.S.

The following table shows our ownership interest as of September 30, 2021 in these segment operations in which we own less than 100%:

Location	Percentage Interest
Tianjin, China	90% (consolidated subsidiary)
Jiangxi Province, China	90% (consolidated subsidiary)
Wuhai, China	80% (consolidated subsidiary)
Mettur Dam, India	50% (equity affiliate)

Currently, three of our reinforcing carbons/specialty carbons manufacturing sites have energy centers.

We are investing for growth with a number of capacity expansion projects and other transactions. In September 2018, we acquired NSCC Carbon (Jiangsu) Co., Ltd. from Nippon Steel Carbon Co., Ltd., a subsidiary of Nippon Steel Chemical & Material Co., Ltd., adding to our portfolio a 50,000-metric ton facility in Pizhou, Jiangsu Province, China. We have begun modifying this facility to produce specialty carbons, and expect production to begin in fiscal 2022. In addition, during fiscal 2018, we purchased Tech Blend, a leading North American producer of black masterbatches, extending our geographic footprint in black masterbatch and compounds. The acquisition added a manufacturing facility in Saint-Jean-sur-Richelieu, Québec, Canada to our manufacturing network. In June 2019, we acquired certain intangible assets from a leading masterbatch producer in Asia, which extended our global footprint in black masterbatch. In addition, to meet anticipated demand, we are in the process of expanding our specialty compounds manufacturing capacity with a new specialty compounds unit at our reinforcing carbons plant in Cilegon, Indonesia, which we expect to be completed in 2023.

We also continue to expand our fumed silica manufacturing capacity, with new plants in Wuhai, China and Carrollton, Kentucky, U.S. In fiscal 2019, we completed construction and began operations at our facility in Wuhai, and in August 2020 we completed construction and began operations at our facility in Carrollton, which is adjacent to DowDuPont's existing silicone monomer plant.

To strengthen our formulations capabilities for batteries, in April 2020, we acquired carbon nano-tube producer Shenzhen Sanshun Nano New Materials Co., Ltd. In addition to additional technology capabilities, this acquisition added a manufacturing facility in Zhuhai, China to our manufacturing network. We intend to further expand our manufacturing capacity for our Battery Materials product line to meet anticipated demand, and in November 2021, we entered into an agreement with Tokai Carbon Group to purchase its carbon black manufacturing facility in Tianjin, China, which we expect to close in the second quarter of fiscal 2022. We plan to convert certain manufacturing units to allow us to produce specialty carbons, including products for our Battery Materials product line, and expect the conversion of the first unit at the site to be completed in calendar year 2024. We plan to manufacture reinforcing carbons at this facility initially and during the period of conversion.

Purification Solutions

Products

Activated carbon is a porous material consisting mainly of elemental carbon treated with heat, steam and/or chemicals to create high internal porosity, resulting in a large internal surface area that resembles a sponge. It is generally produced in two forms, powdered and granular, and is manufactured in different sizes, shapes and levels of purity and using a variety of raw materials for a wide variety of applications. Activated carbon is used to remove contaminants from liquids and gases using a process called adsorption, whereby the interconnected pores of activated carbon trap contaminants.

Our activated carbon products are used for the purification of water, air, food and beverages, pharmaceuticals and other liquids and gases, as either a colorant or a decolorizing agent in the manufacture of products for food and beverage applications and as a chemical carrier in slow release applications. In gas and air applications, one of the uses of activated carbon is for the removal of mercury in flue gas streams. In certain applications, used activated carbon can be reactivated for further use by removing the contaminants from the pores of the activated carbon product. The most common applications for our reactivated carbon are water treatment and food and beverage purification. In addition to our activated carbon production and reactivation, we also provide activated carbon solutions through on-site equipment and services, including delivery systems for activated carbon injection in coal-fired utilities, mobile water filter units and carbon reactivation services.

Drivers of Demand and Sales and Customers

Demand for our activated carbon products is driven primarily by the demand for activated carbon-based solutions for water, gas and air, pharmaceuticals, food and beverages, catalysts and other chemical applications.

Sales of activated carbon are made by Cabot employees and through distributors and sales representatives to a broad range of customers, including coal-fired utilities, food and beverage processors, water treatment plants, pharmaceutical companies and catalyst producers. Some of our sales of activated carbon are made under annual contracts or longer-term agreements, particularly in mercury removal applications.

Competition

We are one of the leading manufacturers of activated carbon in the world. We compete in the manufacture of activated carbon with a number of companies, some of which have a global presence and others that have a regional or local presence, although not all of these companies manufacture activated carbon for the range of applications for which we sell our products. Competition for activated carbon and activated carbon equipment and services is based on quality, price, performance, and supply-chain stability. We believe our commercial strengths include our product and application diversity, product differentiation, technological leadership, and quality.

Raw Materials

The principal raw materials we use in the manufacture of activated carbon are various forms of coal, including lignite, wood and other carbonaceous materials, which are, in general, readily available and we believe we have in adequate supply. With respect to our operations in North America, we owned a lignite mine that was operated by Caddo Creek Resources Company, LLC, a subsidiary of the North American Coal Company, and which supplied our Marshall, Texas facility (the "Marshall Facility"). On September 30, 2020, we sold our interest in the mine to ADA Carbon Solutions (Operations) LLC, a subsidiary of Advanced Emissions Solutions, Inc. ("ADES"), and entered into a long-term supply agreement with ADA Carbon Solutions (Red River), LLC, a subsidiary of ADES, under which it will manufacture and supply our proprietary portfolio of lignite-based activated carbon products exclusively to us. As a result of these actions, effective September 30, 2020, we ceased manufacturing lignite-based activated carbon at our Marshall Facility and idled our activation kilns at that facility.

Operations

We own, or have a controlling interest in, and operate plants that produce activated carbon in Italy, the Netherlands, the U.K. and the U.S. Since September 30, 2020, operations at our Marshall Facility have been limited to certain operational activities not involving the production of activated carbon, including washing of activated carbon, as well as packaging and warehousing operations. We also have joint venture interests in activated carbon plants in Canada and Mexico, and a reactivation plant in Singapore. The following table shows our ownership interest as of September 30, 2021 in activated carbon operations in which we own less than 100%:

Location	Percentage Interest
Estevan, Saskatchewan, Canada	50% (contractual joint venture)
Atitalaquia, Hidalgo, Mexico	49% (equity affiliate)
Republic of Singapore	35% (equity affiliate)

Patents and Trademarks

We own and are a licensee of various patents, which expire at different times, covering many of our products as well as processes and product uses. Although the products made and sold under these patents and licenses are important to Cabot, the loss of any particular patent or license would not materially affect our business, taken as a whole. We sell our products under a variety of trademarks we own and take reasonable measures to protect them. While our trademarks are important to Cabot, the loss of any one of our trademarks would not materially affect our business, taken as a whole.

Research and Development

Our reinforcing and specialty carbon products are highly versatile and meet specific performance requirements across many industries, creating opportunities for innovation. In each of fiscal 2020 and fiscal 2021, we spent approximately $55 million on technology development and R&D focused in the areas of conductive carbons, dispersions and engineered elastomer composites. Our process technology innovation efforts have been focused largely on process yield and optimization to reduce our Scope 1 emissions. Going forward, as part of our sustainability efforts, we expect to focus our R&D and innovation on opportunities to further enhance waste heat recovery, integrate reclaimed carbon, recycled polymers and alternative feedstocks into our products, explore the viability and cost effectiveness of the use of carbon capture and storage/use, as well as developing products that enable customers to create products with improved sustainability profiles.

Seasonality

Our businesses are generally not seasonal in nature, although we may experience some regional seasonal declines during holiday periods and some weather-related seasonality in Purification Solutions.

Human Capital Resources

Our success is realized through the engagement and commitment of our people. We believe that our globally distributed workforce positions us well to serve our broad customer base in the regions and geographies in which they operate. As of September 30, 2021, we had approximately 4,500 employees across our operations, with 40% of our employees in the Americas (65% of whom are in the United States), 31% in EMEA, and 29% in Asia Pacific (75% of whom are in China). Of this global employee base, 44% are employed in manufacturing roles.

Our Management Executive Committee (“Executive Committee”) is comprised of our CEO and his nine direct reports who, collectively, have management responsibility for our businesses, our financial, legal, safety, health and environment, human resources, research and development, global business services, and digital functions, and our regional operations.

Our main human capital objectives are to attract, retain and develop the highest quality talent and ensure they feel safe, supported and empowered to do the best work they can do. Accordingly, our management team places significant focus and attention on matters concerning the Company’s workforce – particularly in the areas of diversity, talent retention and development, total rewards, and employee health and safety. These areas of focus are also represented in our 2025 Sustainability Goals, which include:

- fostering an environment where employees report high levels of inclusion and support for their professional development;
- increasing diverse representation in leadership and professional roles; and
- reducing injuries and frequency of significant process safety events by 50%.

Diversity, Equity and Inclusion

In support of our goals and commitment to foster a diverse and inclusive environment where all employees can contribute, thrive and grow, we have focused on several areas during fiscal 2021, including:

- We introduced a global diversity and inclusion training program focused on unconscious bias for our people managers. This program was well-received, with 99% of our people managers (525 people) and another 470 employees participating in this program in fiscal 2021. We expect to continue to provide this training regularly.
- We launched and expanded several Employee Resource Groups (ERGs): Women & Allies, Black Employees and Allies United, VETS, and Pride@Cabot. The objectives of these ERGs are to help foster a diverse, inclusive workplace by educating and building awareness across the Company on challenges underrepresented groups often face, how to be more inclusive, supporting career development and recruiting efforts, and leading community outreach efforts.
- We facilitated additional educational programs, workshops and discussions on a variety of diversity and inclusion topics for global, regional and local employee groups to engage individuals and teams.

With respect to gender representation, our demographic breakdown is as follows:

Number of Employees by Level and Gender

	Male	% of total	Female	% of total	Total Employees
Executive Committee	7	70%	3	30%	10
Management*	623	75%	205	25%	828
Professional Contributor	854	73%	318	27%	1,172
Hourly & Associate Staff	1,975	80%	506	20%	2,481
Total Population	3,459	77%	1,032	23%	4,491

*Management includes both people managers and senior-level individual contributor roles.

Talent Retention and Development

We have numerous initiatives and programs to attract, develop and retain our talent tailored to specific employee populations and geographies, including leadership and executive development programs, technical training, and other skill-based training. In fiscal 2021, we deployed programs specific to professional growth for our process engineers that encompassed the development of technical skills and capability as well as general business acumen. We also introduced a new online career development portal to provide our employees with tools to empower them to drive their own career development with support from their managers.

We have well-established performance management and talent development processes in which managers provide regular feedback and coaching to develop employees. Throughout the year, managers and employees engage in annual objective setting, quarterly reviews of goal progress, performance feedback, career development discussions, and a year-end performance evaluation. In addition, we regularly review talent development and succession plans for each of our functions and operating segments to identify and develop a pipeline of talent to maintain business operations.

Our biennial employee engagement survey provides an opportunity for the Company to receive feedback from our global workforce and gain insights related to engagement, retention and development. In our 2021 survey, we had very strong participation with an 87% response rate. We remain encouraged by the results of this survey, which show an increase in overall engagement and intent to stay at Cabot.

Some of our employees in the U.S. and abroad are covered by collective bargaining or similar agreements. We have generally positive and productive employee relations with our employees, unions and works councils globally.

Total Rewards

We strive to provide a total rewards program that enables us to attract, retain and motivate the best talent to support our businesses. Our compensation programs embrace a pay for performance philosophy and are designed to be competitive within the markets in which we compete for talent. Our pay practices reward individual and Company performance and are equitably differentiated based on role, experience, contributions, and performance. We regularly assess these practices to ensure we are aligning roles with compensation levels based on job responsibilities, market competitiveness, geographical location, strategic importance of roles and other relevant factors.

Cabot is committed to ensuring that employees are paid fairly relative to one another, without discrimination on the basis of gender or race while taking into account job-related factors such as responsibilities, location, work experience, education and contributions. We conduct reviews annually to monitor our pay practices and develop pay actions where appropriate. Our most recent analysis (which did not include some of our employees who are covered by collective bargaining or similar agreements) indicated that we have strong pay parity between females and males globally as well as with People of Color in the United States across all pay components (annual base salary, short-term incentives, and long-term incentives) for those in the same job and location and after assessing job-related factors such as experience, education and performance, with pay adjustments being needed for 1% of the employees who were included in the assessment.

We also aim to provide competitive benefits programs in all the locations where we operate, including meeting or exceeding local regulations and focusing on health and welfare, employee well-being, and retirement savings. Consistent with this practice, during the COVID-19 pandemic we enhanced many of our offerings and provided the benefits described below, a number of which we continue to provide in order to better support our employees and their families:

- Expanding our Employee Assistance Program globally and offering seminars to assist employees with mental well-being
- Distributing wellness kits containing supplies to combat the COVID-19 virus in most locations, comprised of items such as face masks, thermometers and highlighting available resources for health, emotional and physical support

- Offering a special recognition program, comprised of monetary and non-monetary elements, to all our employees globally to recognize the additional efforts and contributions our colleagues made during the year in response to the pressures of COVID-19
- Introducing an emergency leave and pay policy providing for paid time off in the event of exposure to COVID-19
- Fully covering the costs of COVID-19 testing and vaccines
- Expanding flexible work arrangements
- Providing more flexibility for participants in our 401(k) Plan for U.S.-based employees to take out loans and distributions
- Offering additional back-up childcare, tutoring and elder care benefits for our U.S.-based employees

Employee Health & Safety

We are committed to providing a workplace that prioritizes the health and safety of our employees. As part of our Drive to Zero initiative, we have set a long-term goal of achieving zero injuries at our facilities worldwide. We intend to achieve this ambitious objective by training employees in hazard recognition, ensuring procedures are established to mitigate risks and equipping supervisory personnel with the tools and skills required to execute our work safely. As part of this effort, members of our leadership team participate in root cause determinations and the results are shared throughout our network of operating facilities. Recognizing that it may take many years to achieve our Drive to Zero, we have established a continuous improvement goal for personal safety to achieve a 50% reduction in our recordable and severe injury rate from our baseline measurement in 2019 by 2025. For fiscal year 2021, our Total Recordable Incident Rate (TRIR) based upon the number of injuries per 200,000 work hours for both employees and contractors was 0.34 and our Lost Time Incident Rate (LTIR) was 0.24. For comparison, the US Bureau of Labor Statistics reports for chemical manufacturing an average TRIR of 1.8 and LTIR 1.2 in calendar year 2020.

In response to the COVID-19 pandemic, we also implemented additional health and safety protocols at our sites to reduce employee density, enhance cleaning and enact distancing requirements. Additional personal protective equipment (PPE) was provided to employees, and work procedures were modified to reduce risk. We continue to refine these measures as new information about the virus becomes available.

Through our global SH&E Policy, which is endorsed by our Executive Committee, we hold ourselves accountable to demonstrate our company values and continuously improve the way we operate. The policy defines several important objectives for our continuous improvement in safety, including:

- Complying with all applicable regulations
- Sharing complete information about the safe handling of our products
- Maintaining the safety and security of our employees, contractors and neighbors
- Managing our operations to minimize any impacts on our communities
- Exemplifying the Responsible Care® Guiding Principles
- Partnering with customers to develop innovative and sustainable solutions
- Improving efficiencies, reducing environmental impacts and ensuring that we are prepared for emergencies that could occur

Safety, Health, Environment, and Sustainability

In recognition of the importance of safety, health, environment and sustainability matters to Cabot, our Board of Directors has a Safety, Health, Environment, and Sustainability Committee. The Committee, which is comprised of independent directors, meets regularly and oversees our safety, health, and environmental performance, process safety, security, product stewardship, community engagement and governmental affairs. In particular, the Committee reviews metrics, audit results, emerging trends, overall performance, risks and opportunity assessments and management processes related to our safety, health, environmental and sustainability program.

Our ongoing operations are subject to extensive federal, state, local, and foreign laws, regulations, rules, and ordinances relating to safety, health, and environmental matters ("SH&E Requirements"). The SH&E Requirements to which our operations are subject include requirements to obtain and comply with various environmental-related permits for constructing any new facilities and operating all of our existing facilities and for product registrations. We have expended and will continue to expend considerable resources to construct, maintain, operate, and improve our facilities throughout the world for safety, health and environmental protection and to comply with SH&E Requirements. We spent $83 million in environmental-related capital expenditures in fiscal 2021. We anticipate spending approximately $80 million for such matters in fiscal 2022, a significant portion of which will continue to be for the installation of air pollution control equipment and wastewater infrastructure improvements at certain of our plants. These costs include costs associated with our compliance with the Consent Decree we entered into in November 2013 with the U.S. Environmental Protection Agency ("EPA") and the Louisiana Department of Environmental Quality ("LDEQ") regarding Cabot's three carbon black manufacturing facilities in the U.S. This settlement is related to the EPA's national enforcement initiative focused on the U.S. carbon black manufacturing sector alleging non-compliance with certain regulatory and permitting requirements under The

Clean Air Act, including the New Source Review ("NSR") construction permitting requirements. Pursuant to this settlement, Cabot has installed technology controls for sulfur dioxide and/or nitrogen oxide at its carbon black plants in Pampa, Texas and Canal, Louisiana, and is in the process of installing such technology controls at its plant in Ville Platte, Louisiana. We expect that the total capital costs to install these technology controls will be in the range of $225 million to $250 million and will be incurred through calendar year 2023. As of September 30, 2021, we have incurred $125 million to install these controls in the U.S. We also expect our operating costs will increase as these controls become operational. All carbon black manufacturers in the U.S. have settled with the EPA and are installing similar controls.

Environmental agencies worldwide are increasingly implementing regulations and other requirements resulting in more restrictive air emission limits globally, particularly as they relate to nitrogen oxide, sulfur dioxide and particulate matter emissions. In addition, growing concerns about climate change and an increased focus on carbon neutrality have led to global efforts to reduce greenhouse gas emissions, which will impact the carbon black and activated carbon industries and our businesses as carbon dioxide is emitted from those manufacturing processes. Currently, in Europe, our four carbon black facilities and one activated carbon facility are subject to the EU Emission Trading Scheme ("EU ETS"). The fourth phase of the EU ETS began in January 2021 with updated product benchmarks for our carbon black facilities. In addition, our carbon black facility in The Netherlands is subject to The Netherlands CO2 tax, which is a top-off tax to the EU ETS scheme, and in 2021 was assessed a CO2 tax. We do not expect to be assessed a supplemental Netherlands CO2 tax as EUA pricing is expected to remain higher than the Netherlands CO2 tax threshold in the next few years. In China national emissions trading program is currently only in place for the power sector and has not yet been expanded beyond that sector. We continue to monitor that program's further implementation and expect it to apply to the carbon black industry in 2023 or 2024, with the existing pilots expected to continue to operate until the national program becomes effective. In Canada, our carbon black manufacturing facility has been subject to the Canadian federal carbon tax program. The new Ontario Emissions Performance Standard trading system will replace the Canadian federal Output-Based Pricing System for our carbon black facility in Ontario, with specific transition requirements that were announced in October 2021 becoming effective on January 1, 2022. In addition, under the Province of Ontario Ministry of Environment, Conservation and Parks regulations, we expect we will be required within the next three to five years to install technology controls for sulfur dioxide at our manufacturing plant in Sarnia, Ontario. In Mexico, our carbon black facility is participating in the pilot national ETS program, which is expected to continue into fiscal 2022. A carbon tax has also recently been adopted in the Tamaulipas state, where our operations in Mexico are located, that became effective on January 1, 2021. In other regions where we operate, some of our facilities are required to report their greenhouse gas emissions but are not currently subject to programs requiring trading or emission controls but may be subject to limited carbon tax programs affecting fuels we purchase. We generally expect to pay any incurred taxes or purchase emission credits as needed to respond to any allocation shortfalls and pass these costs on to our customers. In addition, further air emission regulations may be adopted in the future in regions and countries where we operate, which could have an impact on our operations. Increasing regulatory programs associated with emissions and concerns regarding climate change are expected to increase our capital and operational costs in the future.

Cabot has been named as a potentially responsible party under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (the "Superfund law") and comparable state statutes with respect to several sites primarily associated with our divested businesses. (See "Legal Proceedings" in Item 3 below, and Note U in Item 8 below, under the heading "Contingencies".) During the next several years, as remediation of various environmental sites is carried out, we expect to spend against our environmental reserve for costs associated with such remediation. As of September 30, 2021, our environmental reserve was approximately $5 million. Adjustments are made to the reserve based on our continuing analysis of our share of costs likely to be incurred at each site. Inherent uncertainties exist in these estimates due to unknown conditions at the various sites, changing governmental regulations and legal standards regarding liability, and changing technologies for handling site investigation and remediation. While the reserve represents our best estimate of the costs we expect to incur, the actual costs to investigate and remediate these sites may exceed the amounts accrued in the environmental reserve. While it is always possible that an unusual event may occur with respect to a given site and have a material adverse effect on our results of operations in a particular period, we do not believe that the costs relating to these sites, in the aggregate, are likely to have a material adverse effect on our consolidated financial position. Furthermore, it is possible that we may also incur future costs relating to environmental liabilities not currently known to us or as to which it is currently not possible to make an estimate.

The International Agency for Research on Cancer ("IARC") classifies carbon black as a Group 2B substance (known animal carcinogen, possible human carcinogen). We have communicated IARC's classification of carbon black to our customers and employees and have included that information in our safety data sheets and elsewhere, as appropriate. We continue to believe that the available evidence, taken as a whole, indicates that carbon black is not carcinogenic to humans, and does not present a health hazard when handled in accordance with good housekeeping and safe workplace practices as described in our safety data sheets.

Our products are subject to the chemical control laws and regulatory requirements of the countries in which they are manufactured or imported. These laws include the regulation of chemical substances and inventories under the Toxic Substances Control Act ("TSCA") in the U.S. and the Registration, Evaluation and Authorization of Chemicals ("REACh") in the European Union.

Manufacturers or importers of these chemical substances are required to submit specified health, safety, environment, risk and use information about these substances. Under the “Evaluation” portion of the REACh framework, the European Chemicals Agency (ECHA) and European Union Member States assess the information submitted by companies within registration dossiers and testing proposals to determine whether the associated substances are safe for use. The dossier of silica and multiwalled carbon nanotubes have recently been reviewed and accepted by the competent authority. Carbon black is scheduled for review in 2022. Analogous regimes exist in other parts of the world, including the UK, Turkey, Eurasia, China, South Korea, and Taiwan. Many of these chemical control regulations are in the process of a multi-year implementation period for product/substance registrations or notifications.

Additional requirements for nanomaterials apply to many of our existing products including carbon black, fumed silica, inkjet pigments, fumed alumina, and advanced carbons such as carbon nanostructures and carbon nanotubes. Country-specific nanomaterial reporting programs have been implemented in some countries and are being developed by others. We intend to continue to monitor and comply with these requirements.

A number of organizations and regulatory agencies have become increasingly focused on the issue of water scarcity and water quality, particularly in certain geographic regions. We are engaged in various activities to promote water conservation and wastewater recycling. The costs associated with these activities are not expected to have a material adverse effect on our operations.

Various U.S. agencies and international bodies have adopted security requirements applicable to certain manufacturing and industrial facilities and marine port locations. These security-related requirements involve the preparation of security assessments and security plans in some cases, and in other cases the registration of certain facilities with specified governmental authorities. We closely monitor all security-related regulatory developments and believe we are in compliance with all existing requirements. Compliance with such requirements is not expected to have a material adverse effect on our operations.

Item 1A. *Risk Factors*

In addition to factors described elsewhere in this report, the following are important factors that could adversely affect our business. The risks described below are not the only risks we face. Additional risks not presently known to us or that we currently deem immaterial may also impair our business operations and financial results.

COVID-19 Pandemic Risk

The COVID-19 pandemic has disrupted our operations and has had and could continue to have a material adverse effect on our business and any future outbreak of a widespread health epidemic could materially and adversely impact our business in the future.

Our global operations expose us to risks associated with public health crises and outbreaks of epidemics, pandemics, or contagious diseases, such as the current outbreak of a novel strain of coronavirus (“COVID-19”). The COVID-19 pandemic and the associated containment efforts have had a serious adverse impact on the economy and on our business, results of operations and cash flows. Specifically, during fiscal 2020, the COVID-19 pandemic disrupted operations at our key customers within the automotive and tire industries, which materially reduced demand for our products. The deterioration of earnings we experienced from the COVID-19 pandemic was one of the factors that contributed to our recording of a valuation allowance on our U.S. deferred tax assets in the fourth quarter of fiscal 2020, as described in Note R in Item 8 below under the heading “Income Taxes”. In response to reduced demand for our products, and also to comply with government mandates, during portions of fiscal 2020 we temporarily ceased operations or idled production lines at our facilities and we may be required to do this in the future. In addition, the current pandemic, or any future global health crisis, could materially affect our ability to adequately staff and maintain our operations, including in the event government authorities impose mandatory closures, work-from-home orders and social distancing protocols, and seek voluntary facility closures and impose other restrictions to mitigate the further spread of disease. A global health crisis could also disrupt our supply chain and materially and adversely impact our ability to secure supplies for our facilities and to provide personal protective equipment for our employees, which could materially and adversely affect our operations. For example, the COVID-19 pandemic is having a negative impact on the cost and availability of global transportation and on the availability of semi-conductor chips for the automotive industry. It has also contributed to increased costs and decreased availability of labor and materials for construction projects, and these factors have increased the costs of our capital improvement projects and delayed our completion of such projects. There may also be long-term effects on our customers in, and the economies of, affected countries. Even if a virus or other illness does not spread significantly, the perceived risk of infection or health risk may materially affect our business. Any of the foregoing within the countries in which we or our customers and suppliers operate could severely disrupt our operations and could have a material adverse effect on our business, results of operations, cash flows and financial condition. As we cannot predict the duration or scope of COVID-19 or any pandemic, the negative financial impact to our results cannot be reasonably estimated and could be material. Factors that will influence the impact on our business and operations include the duration and extent of the pandemic, including the virulence and spread of different strains of a virus and the level and timing of vaccine development and distribution across the world and their impact on economic recovery and growth, the extent of imposed or recommended containment and mitigation measures and their impact on our operations and the operations of our customers, and the general economic consequences of the pandemic.

In addition, a global health crisis that continues for an extended period of time with an adverse impact on our revenue and overall profitability may lead to an increase in inventory reserves, allowances for doubtful accounts, and additional valuation allowances on certain of our deferred tax assets, or a reduction in our borrowing availability under our credit agreements, or cause us to recognize impairments for certain long-lived assets including goodwill, intangible assets or property, plant and equipment.

To the extent the COVID-19 pandemic or other widespread health epidemic adversely affected or affects our business and financial results, it may also have the effect of heightening many of the other risks that could adversely affect our business described below, such as risks associated with industry capacity utilization, volatility in the price and availability of raw materials, material adverse changes in customer relationships including any failure of a customer to perform its obligations under agreements with us, IT security systems risks, factors affecting our tax rate, and risks associated with worldwide or regional economic conditions.

Industry Risks

Industry capacity utilization and competition from other specialty chemical companies may adversely impact our business.

Our businesses are sensitive to industry capacity utilization, and pricing tends to fluctuate when capacity utilization changes occur, which could affect our financial performance. Further, we operate in a highly competitive marketplace. Our ability to compete successfully depends in part upon our ability to maintain a superior technological capability and to continue to identify, develop and commercialize new and innovative, high value-added products for existing and future customers. Increased competition from existing or newly developed products offered by our competitors or companies whose products offer a similar functionality as our products, particularly those with an improved environmental footprint, and could be substituted for our products, may negatively affect demand for our products. In addition, actions by our competitors could impair our ability to maintain or raise prices, successfully enter new markets or maintain or grow our market position.

Environmental regulations and restrictions that affect the carbon black industry impose constraints on our operations, and could threaten our competitive position and increase our operating costs, which may adversely impact our business and results of operations.

Our ongoing carbon black operations are subject to extensive federal, state, local and foreign laws, regulations, rules and ordinances relating to environmental matters, many of which provide for substantial monetary fines and criminal sanctions for violations. These include requirements to obtain and comply with various environmental-related and other permits for constructing any new facilities and operating all of our existing facilities. These environmental regulatory requirements and restrictions impose constraints on our operations, and could threaten our competitive position. We have expended and will continue to expend considerable amounts to construct, maintain, operate, and improve our facilities around the world for environmental protection.

Further, environmental agencies worldwide are increasingly implementing regulations and other requirements resulting in more restrictive air emission limits globally, particularly as they relate to nitrogen oxides, sulfur dioxide and particulate matter emissions. We expect complying with existing regulations and other regulatory and tax changes being proposed in regions where we operate, if approved, will require us to incur significant additional costs for compliance, capital improvements or limit our current or planned operations. We may not be able to offset the effects of these compliance costs through price increases. Our ability to implement price increases is largely influenced by competitive and economic conditions and could vary significantly depending on the segment served. Such increases may not be accepted by our customers, may not be sufficient to compensate for increased regulatory costs or may decrease demand for our products and our volume of sales.

A description of these matters is included in the discussion under the heading “Safety, Health, Environment, and Sustainability” in Item 1 above, and in Note T in Item 8 below under the heading “Contingencies”).

We may be exposed to certain regulatory and financial risks related to climate change developments and an increased focus on carbon neutrality, which may adversely affect our business and results of operations, and increased pressures and adverse publicity about potential impacts on climate change by us or other companies in our industry could harm our reputation.

Carbon dioxide, a greenhouse gas, is emitted in carbon black manufacturing processes. Concerns about the relationship between greenhouse gases and global climate change, and an increased focus on carbon neutrality, may result in additional regulations on both national and supranational levels, to monitor, regulate, control and tax emissions of carbon dioxide and other greenhouse gases. Climate changes include extreme weather impacts, such as changes in rainfall and in storm patterns and intensities, water shortages, significantly changing sea levels and increasing atmospheric and water temperatures. A number of governmental bodies have introduced or are contemplating regulatory changes in response to climate change, including regulating greenhouse gas emissions. Specifically, in certain geographic areas, our carbon black and activated carbon facilities are or may become subject to greenhouse gas emission trading schemes or carbon tax programs under which we may be required to pay any incurred taxes or purchase emission credits if our emission levels exceed our free allocation. The outcome of new legislation or regulation in the U.S. and other jurisdictions in which we operate may result in new or additional requirements and fees or restrictions on certain activities. Compliance with greenhouse gas and climate change initiatives may result in additional costs to us, including, among other things, increased production costs, increased feedstock costs, additional taxes, reduced emission allowances or additional restrictions on production or operations, particularly as they may relate to our carbon black business. We may not be able to offset the effects of these new or more stringent laws and regulations and compliance costs through price increases, which could adversely affect our business and negatively impact our growth. Our ability to implement price increases is largely influenced by competitive and economic conditions and could vary significantly depending on the segment served. Such increases may not be accepted by our customers, may not be sufficient to compensate for increased regulatory costs or may decrease demand for our products and our volume of sales. Any adopted future climate change regulations could also negatively impact our ability to compete with companies situated in areas not subject to such limitations.

Even without such regulation, increased public awareness and adverse publicity about potential impacts on climate change or environmental harm from us or our industry could harm our reputation or otherwise impact the Company adversely. In recent years, investors have also begun to show increased interest about sustainability and climate change as it relates to their investment decisions. In addition, increasing weather-related impacts on our operations and plant sites may impact the cost or availability of insurance. Furthermore, the potential impact of climate change and related regulation on our feedstock suppliers and customers is highly uncertain and there can be no assurance that it will not have an adverse effect on the availability over time of our traditional carbon black feedstocks, our customers' businesses, and on our financial condition and results of operations.

Volatility in the price and availability of raw materials and energy could impact our margins and working capital.

Our manufacturing processes consume significant amounts of energy and raw materials, the costs of which are subject to worldwide supply and demand as well as other factors beyond our control. Our carbon black businesses use a variety of feedstocks as raw material including high sulfur fuel oils, low sulfur fuel oils, coal tar distillates, and ethylene cracker residue, the cost and availability of which vary, based in part on geography. Significant movements or volatility in our carbon black feedstock costs could have an adverse effect on our working capital and results of operations. In addition, regulatory changes may impact the prices of our feedstocks. For example, the International Maritime Organization regulation known as MARPOL further restricted the sulfur emissions for the shipping industry beginning January 1, 2020. This has impacted the prices and could impact the availability of certain fuel oils we use as feedstock for our products.

Certain of our carbon black supply arrangements contain provisions that adjust prices to account for changes in relevant feedstock and natural gas price indices. We also attempt to offset the effects of increases in raw material and energy costs through selling price increases in our non-contract sales, productivity improvements and cost reduction efforts. Success in offsetting increased raw material and energy costs with price increases is largely influenced by competitive and economic conditions and could vary significantly depending on the segment served. Such increases may not be accepted by our customers, may not be sufficient to compensate for increased raw material and energy costs or may decrease demand for our products and our volume of sales. If we are not able to fully offset the effects of increased raw material or energy costs, it could have a significant impact on our financial results. Rapid declines in energy and raw material costs can also negatively impact our financial results, as such changes can negatively affect the returns we receive on our energy centers and yield improvement investments, and may negatively impact our contract pricing adjustments. In addition, we use a variety of feedstock indices in our supply arrangements to adjust our prices for changes in raw materials costs. Depending on feedstock markets and our choice of feedstocks, the indices we use in our supply arrangements may not precisely track our actual costs. This could result in an incongruity between our pricing adjustments and changes in our actual feedstock costs, which can affect our net working capital and our margins. Further, the timing of the implementation of any of these pricing adjustments may not precisely track our actual costs as reflected in our financial statements.

In addition, we obtain certain of our raw materials from selected key suppliers. Although we typically maintain raw material inventory, if any sole source supplier of raw materials ceases supplying raw materials to us, or if any of our key suppliers is unable to meet its obligations under supply agreements with us on a timely basis or at an acceptable price, or at all, we may be forced to incur higher costs to obtain the necessary raw materials elsewhere or, in certain limited cases, may not be able to obtain the required raw materials.

A significant adverse change in a customer relationship or the failure of a customer to perform its obligations under agreements with us could harm our business or cash flows.

Our success in strengthening relationships and growing business with our largest customers and retaining their business over extended time periods is important to our future results. We have a group of key customers across our businesses that together represent a significant portion of our total net sales and operating revenues. The loss of any of our important customers, or a significant reduction in volumes sold to them, could adversely affect our results of operations until such business is replaced or any temporary disruption ends. Further, in our Reinforcement Materials segment we enter into supply arrangements with a number of key customers that typically have a duration of one year, which account for approximately half of our total rubber blacks volumes. Our success in negotiating the price and volume terms under these arrangements could have a material effect on our results. In addition, any deterioration in the financial condition of any of our customers that impairs our customers' ability to make payments to us also could increase our uncollectible receivables and could affect our future results and financial condition.

We are exposed to political or country risk inherent in doing business in some countries.

Sales outside of the U.S. constituted the majority of our revenues in fiscal 2021. We conduct business in several countries that have less stable legal systems and financial markets, and potentially more corrupt business environments than the U.S. Our operations in some countries are subject to the following risks: changes in the rate of economic growth; unsettled political or economic conditions; non-renewal of operating permits or licenses; possible expropriation or other governmental actions; corruption by government officials and other third parties; social unrest, war, terrorist activities or other armed conflict; confiscatory taxation or other adverse tax policies; deprivation of contract rights; trade regulations affecting production, pricing and marketing of products; reduced protection of intellectual property rights; restrictions or additional costs associated with repatriating cash; exchange controls; inflation; currency fluctuations and devaluation; political tension that could result in sanctions being imposed against our customers or suppliers in countries where sanctions have not been imposed in the past; the effect of global health, safety and environmental matters on economic conditions and market opportunities; and changes in financial policy and availability of credit.

The Chinese government has, from time to time, curtailed manufacturing operations, with little or no notice, in industrial regions out of growing concern over air quality. The timing and length of these curtailments are difficult to predict and, at times, are applied to manufacturing operations without regard to whether the operations being curtailed comply with environmental regulations in the area. Accordingly, our manufacturing operations in China have been subject to these curtailments in the past and will likely be subject to them in the future. In addition, the Chinese government has instituted energy intensity and energy consumption targets in a number of provinces in its efforts to reduce energy consumption, resulting in energy quotas and shortages in energy supply. We are unable to predict how any power outages related to these targets will impact our operations. These events could negatively impact our results of operations and cash flows both during and after the period of any government-imposed curtailment or power outages affecting our operations. Further, any such curtailments on the operations at our customers' facilities could reduce demand for our products and our volumes.

Operational Risks

As a chemical manufacturing company, our operations are subject to operational risks and have the potential to cause environmental or other damage as well as personal injury, or disrupt our ability to supply our customers, any of which could adversely affect our business, results of operations and cash flows.

The operation of a chemical manufacturing business as well as the sale and distribution of chemical products are subject to operational as well as safety, health and environmental risks. For example, the production and/or processing of carbon black, specialty compounds, fumed metal oxides, aerogel, activated carbon and other chemicals involve the handling, transportation, manufacture or use of certain substances or components that may be considered toxic or hazardous. Our manufacturing processes and the transportation of our chemical products and/or the raw materials used to manufacture our products are subject to risks inherent in chemical manufacturing, including leaks, fires, explosions, toxic releases, mechanical failures or unscheduled downtime. For example, in fiscal 2021, we experienced an unplanned plant outage at our plant in Canal, Louisiana that caused reduced volumes and earnings during the period the plant was down and increased our fixed costs. In addition, the occurrence of material operating problems at our facilities, particularly at a facility that is the sole source of a particular product we manufacture, or a disruption in our supply chain or distribution operations may result in loss of production, which, in turn, may make it difficult for us to meet customer needs. Accordingly, these events and their consequences could negatively impact our results of operations and cash flows, both during and after the period of operational difficulties, and could harm our reputation.

An interruption in our operations as a result of fence-line arrangements could disrupt our manufacturing operations and adversely affect our financial results.

At certain of our fumed metal oxides facilities and one of our carbon black facilities in China we have fence-line arrangements with adjacent third party manufacturing operations ("fence-line partners"), who provide raw materials for our manufacturing operations and/or take by-products generated from our operations. Accordingly, any disruptions or curtailments in a fence-line partner's production facilities that impacts their ability to supply us with raw materials or to take our manufacturing by-products could disrupt our manufacturing operations or cause us to incur increased operating costs to mitigate such disruption. We have experienced disruptions in the supply of raw materials from certain of our fence-line partners in recent years, which have caused us to curtail our operations or incur higher operating costs. Significant events at neighboring industrial facilities, such as environmental releases, could also disrupt our operations and result in negative publicity about us and harm our reputation.

Our products are subject to extensive safety, health and environmental requirements, which could impair our ability to manufacture and sell certain products.

In order to secure and maintain the right to produce or sell our products, we must satisfy product related regulatory requirements in different jurisdictions. Obtaining and maintaining these approvals requires a significant amount of product testing and data, and there is no certainty these approvals will be obtained.

Certain national and international health organizations have classified carbon black as a possible or suspected human carcinogen. To the extent that, in the future, (i) these organizations re-classify carbon black as a known or confirmed carcinogen, (ii) other organizations or government authorities in other jurisdictions classify carbon black or any of our other finished products, raw materials or intermediates as suspected or known carcinogens or otherwise hazardous, or (iii) there is discovery of adverse health effects attributable to production or use of carbon black or any of our other finished products, raw materials or intermediates, we could be required to incur significantly higher costs to comply with environmental, health and safety laws, or to comply with restrictions on sales of our products, be subject to legal claims, and our reputation and business could be adversely affected. In addition, chemicals that are currently classified as non-hazardous may be classified as hazardous in the future, and our products may have characteristics that are not recognized today but may be found in the future to impair human health or to be carcinogenic.

Information technology systems failures, data security breaches, cybersecurity attacks or network disruptions could compromise our information, disrupt our operations and expose us to liability, which may adversely impact our operations.

We rely on information technology, some of which is managed by third parties, to manage the day-to-day operations and activities of our business, operate elements of our manufacturing facilities, manage our customer and vendor transactions, and maintain our financial, accounting and business records. In addition, we collect and store certain data, including proprietary business information, and may have access to confidential or personal information that is subject to privacy and security laws and regulations.

The secure processing, maintenance and transmission of this data is critical to our operations and business strategy. Information technology systems failures, including those associated with upgrading our systems or integrating information technology and other systems in connection with the integration of businesses we acquire, or network disruptions could disrupt our operations by impeding our processing of transactions and our financial reporting, and our operations, which could have a material adverse effect on our business or results of operations.

In addition, our information technology systems could be compromised by outside parties intent on extracting information, corrupting information or disrupting business processes. Despite our security design and controls, and those of our third-party providers, we may be vulnerable to cyber-attacks, computer viruses, security breaches, inadvertent or intentional employee actions, system failures and other risks that could potentially lead to the compromising of sensitive, confidential or personal data, improper use of our, or our third-party provider systems, solutions or networks, unauthorized access, use, disclosure, modification or destruction of information, or operational disruptions. We face increased information technology security and fraud risks due to our increased reliance on working remotely during the COVID-19 pandemic and beyond, which may create additional information security vulnerabilities and/or magnify the impact of any disruption in information technology systems. Additionally, we may be exposed to unauthorized access to our information technology systems through undetected vulnerabilities in our service providers' information systems or software. With the evolving nature of cybersecurity threats, the scope and impact of any information security incident cannot be predicted. In addition, the global regulatory environment pertaining to information security and privacy is increasingly demanding, with new and changing requirements, such as the European Union's General Data Protection Regulation ("GDPR"), the China Cybersecurity Law, and Brazil's Lei Geral de Protecao de Dados (LGPD). Complying with these laws and regulations may be more costly or take longer than we anticipate and could otherwise affect our business operations.

Breaches of our security measures, cyber incidents and disruptions, or the accidental loss, inadvertent disclosure, or unapproved dissemination of proprietary information or sensitive or confidential information about the Company, our employees, our vendors, or our customers, or failure to comply with laws and regulations related to information security or privacy, could result in legal claims or proceedings against us by governmental entities or individuals, significant fines, penalties and judgments, disruption of our operations, remediation requirements, changes to our business practices, and damage to our reputation, and could otherwise harm our business and our results of operations.

Natural disasters and severe weather events could affect our operations and financial results.

We operate facilities in areas of the world that are exposed to natural hazards, such as floods, windstorms, hurricanes, and earthquakes. In addition, extreme weather events and changing weather patterns present physical risks on existing infrastructure that may become more frequent or more severe as a result of factors related to climate change. Such events could disrupt our supply of raw materials or otherwise affect production, transportation and delivery of our products or affect demand for our products.

We have experienced recent disruptions of the type described above. For example, the severe flooding that occurred in Western Europe in July 2021 caused significant damage to our Specialty Compounds plant in Pepinster, Belgium. This disruption has resulted in a near-term reduction in earnings from lower volumes and certain increases in our operating costs, not all of which we expect to be able to recover from our insurance.

Technology Risks

We may not be successful achieving our growth expectations from new products, new applications and technology developments, and money we spend on these efforts may not result in an increase in revenues or profits commensurate with our investment.

We may not be successful achieving our growth expectations from developing new products or product applications. Moreover, we cannot be certain that the costs we incur investing in new product and technology development will result in an increase in revenues or profits commensurate with our investment. For example, our investments to further develop our E2C™ solutions and battery materials applications may not result in the earnings growth expectations on which these investments are being made. In addition, the timely commercialization of products that we are developing may be disrupted or delayed by manufacturing or other technical difficulties, market acceptance or insufficient market size to support a new product, competitors' new products, and difficulties in moving from the experimental stage to the production stage. These disruptions or delays could affect our future business results.

The continued protection of our patents, trade secrets and other proprietary intellectual property rights are important to our success.

Our patents, trade secrets and other intellectual property rights are important to our success and competitive position. We own various patents and other intellectual property rights in the U.S. and other countries covering many of our products, as well as processes and product uses. Where we believe patent protection is not appropriate or obtainable, we rely on trade secret laws and practices to protect our proprietary technology and processes, such as physical security, limited dissemination and access and confidentiality agreements with our employees, customers, consultants, business partners, potential licensees and others to protect our trade secrets and other proprietary information. However, trade secrets can be difficult to protect and the protective measures we have put in place may not prevent disclosure or unauthorized use of our proprietary information or provide an adequate remedy in the event of misappropriation or other violations of our proprietary rights. In addition, we are a licensee of various patents and intellectual property rights belonging to others in the U.S. and other countries. Because the laws and enforcement mechanisms of some countries may not allow us to protect our proprietary rights to the same extent as we are able to do in the U.S., the strength of our intellectual property rights will vary from country to country.

Irrespective of our proprietary intellectual property rights, we may be subject to claims that our products, processes or product uses infringe the intellectual property rights of others. These claims, even if they are without merit, could be expensive and time consuming to defend and if we were to lose such claims, we could be enjoined from selling our products or using our processes and/or be subject to damages, or be required to enter into licensing agreements requiring royalty payments and/or use restrictions. Licensing agreements may not be available to us, or if available, may not be available on acceptable terms.

Portfolio Management, Capacity Expansion and Integration Risks

Any failure to realize benefits from acquisitions, alliances or joint ventures or to achieve our portfolio management objectives could adversely affect future financial results.

In achieving our strategic plan objectives, we may pursue acquisitions, alliances or joint ventures intended to complement or expand our existing businesses globally or add product technology, or both. The success of acquisitions of businesses, new technologies and products, or arrangements with third parties is not always predictable and we may not be successful in realizing our objectives as anticipated. We may not be able to integrate any acquired businesses successfully into our existing businesses, make such businesses profitable, or realize anticipated cost savings or synergies, if any, from these acquisitions, which could adversely affect our business results. In addition to strategic acquisitions we evaluate our portfolio in light of our objectives and alignment with our growth strategy. In implementing this strategy we may not be successful in separating non-strategic assets. The gains or losses on the divestiture of, or lost operating income from, such assets may affect our earnings. Moreover, we have in the past, and may again in the future, incur asset impairment charges related to acquisitions or divestitures that reduce earnings. As described in Item 9B, "Other Information", below, we expect to record an asset impairment charge in the first quarter of fiscal 2022 in connection with the disposition of our Purification Solutions business.

Plant capacity expansions and site development projects may impact existing plant operations, be delayed and/or not achieve the expected benefits.

Our ability to complete capacity expansions and site development projects, including capacity conversions from rubber carbon black to specialty carbon black and other site development projects, as planned may be delayed or interrupted by the need to obtain environmental and other regulatory approvals, unexpected cost increases, availability of labor and materials, unforeseen hazards such as weather conditions, and other risks customarily associated with construction projects. These risks include the risk that existing plant operations are disrupted, which could make it difficult for us to meet our customer needs. Moreover, in the case of capacity expansions, the cost of these activities could have a negative impact on the financial performance of the relevant business until capacity utilization at the particular facility is sufficient to absorb the incremental costs associated with an expansion. In addition, our ability to expand capacity in emerging regions depends in part on economic and political conditions in these regions and, in some cases, on our ability to establish operations, construct additional manufacturing capacity or form strategic business alliances.

Financial Risks

Negative or uncertain worldwide or regional economic conditions or trade relations may adversely impact our business.

Our operations and performance are affected by worldwide and regional economic conditions. Uncertainty or a deterioration in the economic conditions affecting the businesses to which, or geographic areas in which, we sell products could reduce demand for our products. We may also experience pricing pressure on products and services, which could decrease our revenues and have an adverse effect on our financial condition and cash flows. In addition, during periods of economic uncertainty, our customers may temporarily pursue inventory reduction measures that exceed declines in the actual underlying demand.

In addition, changes in, or tensions relating to, U.S. trade relations with countries where we do business may adversely impact our business. For example, tensions in the U.S.-China trade relationship have led to an increase in the risk of sanctions being imposed against our suppliers and customers in China which, if imposed, could restrict our ability to do business with such companies. In addition, further trade tensions between the countries could have further adverse implications on our businesses and operating results in both the U.S. and China. For instance, we may encounter unexpected operating difficulties in China, more restrictive investment opportunities in China, greater difficulty transferring funds, more restrictive travel in and out of China, or negative currency impacts. Further, the cost of our capital projects may be higher than anticipated because of these trade tariffs.

Litigation or legal proceedings could expose us to significant liabilities and thus negatively affect our financial results.

As more fully described in Note T in Item 8 below under the heading "Contingencies", we are a party to or the subject of lawsuits, claims, and proceedings, including, but not limited to, those involving environmental, and health and safety matters as well as product liability and personal injury claims relating to asbestosis, silicosis, and coal worker's pneumoconiosis. We are also a potentially responsible party in various environmental proceedings and remediation matters wherein substantial amounts are at issue. Adverse rulings, judgments or settlements in pending or future litigation (including liabilities associated with respirator claims) or in connection with environmental remediation activities could adversely affect our financial results or cause our results to differ materially from those expressed or forecasted in any forward-looking statements.

Our tax rate is dependent upon a number of factors, a change in any of which could impact our future tax rates and net income.

Our future tax rates may be adversely affected by a number of factors, including: changes in the jurisdictions in which our profits are determined to be earned and taxed; changes in the estimated realization of our net deferred tax assets; the repatriation of non-U.S. earnings for which we have not previously provided for non-U.S. withholding taxes; adjustments to estimated taxes upon finalization of various tax returns; increases in expenses that are not deductible for tax purposes; changes in available tax credits; the resolution of issues arising from tax audits with various tax authorities; and changes in tax laws or the interpretation of such tax laws. In addition, losses for which no tax benefits can be recorded could materially impact our tax rate and its volatility from one quarter to another.

Fluctuations in foreign currency exchange and interest rates affect our financial results.

We earn revenues, pay expenses, own assets and incur liabilities in countries using currencies other than the U.S. dollar. In fiscal 2021, we derived a majority of our revenues from sales outside the U.S. Because our consolidated financial statements are presented in U.S. dollars, we must translate revenues and expenses, as well as assets and liabilities, into U.S. dollars at exchange rates in effect during or at the end of each reporting period. Therefore, increases or decreases in the value of the U.S. dollar against other currencies in countries where we operate will affect our results of operations and the value of balance sheet items denominated in foreign currencies. Due to the geographic diversity of our operations, weaknesses in some currencies might be offset by strengths in others over time. In addition, we are exposed to adverse changes in interest rates. We manage both these risks through normal operating and financing activities and, when deemed appropriate, through the use of derivative instruments as well as foreign currency debt. We cannot be certain, however, that we will be successful in reducing the risks inherent in exposures to foreign currency and interest rate fluctuations.

Further, we have exposure to foreign currency movements because certain foreign currency transactions need to be converted to a different currency for settlement. These conversions can have a direct impact on our cash flows.

We have entered into a number of derivative contracts with financial counterparties. The effectiveness of these contracts is dependent on the ability of these financial counterparties to perform their obligations and their nonperformance could harm our financial condition.

We have entered into forward foreign currency contracts and cross-currency swaps as part of our financial risk management strategy. The effectiveness of our risk management program using these instruments is dependent, in part, upon the counterparties to these contracts honoring their financial obligations. If any of our counterparties are unable to perform their obligations in the future, we could be exposed to increased earnings and cash flow volatility due to an instrument's failure to hedge or adequately address a financial risk.

Item 1B. ***Unresolved Staff Comments***

None.

Item 2. *Properties*

Cabot's corporate headquarters are in leased office space in Boston, Massachusetts. We also own or lease office, manufacturing, storage, distribution, marketing and research and development facilities in the U.S. and in foreign countries. The locations of our principal manufacturing and/or administrative facilities are set forth in the table below. Unless otherwise indicated, all the properties are owned.

Location by Region	Reinforcement Materials	Performance Chemicals	Purification Solutions
Americas Region			
Alpharetta, Georgia*[(1)]	X	X	X
Tuscola, Illinois		X	
Carrollton, Kentucky		X	
Canal, Louisiana	X	X	
Ville Platte, Louisiana	X		
Billerica, Massachusetts	X	X	X
Haverhill, Massachusetts		X	
Midland, Michigan		X	
Pryor, Oklahoma			X
Marshall, Texas			X
Pampa, Texas	X	X	
Campana, Argentina	X		
Maua, Brazil	X	X	
Sao Paulo, Brazil*[(1)]	X	X	X
Saint-Jean-sur-Richelieu, Québec, Canada		X	
Sarnia, Ontario, Canada	X	X	
Cartagena, Colombia	X		
Altamira, Mexico	X		
Europe, Middle East and Africa Region			
Loncin, Belgium		X	
Pepinster, Belgium		X	
Valasske Mezirici (Valmez), Czech Republic**	X		
Port Jerome, France**	X		
Frankfurt, Germany*		X	
Rheinfelden, Germany		X	
Ravenna, Italy (2 plants)	X		X
Riga, Latvia*[(1)]	X	X	X
Schaffhausen, Switzerland*	X	X	X
Botlek, Netherlands**	X	X	
Amersfoort, Netherlands*			X
Klazienaveen, Netherlands			X
Zaandam, Netherlands			X
Dubai, United Arab Emirates*		X	
Purton, United Kingdom (England)			X
Glasgow, United Kingdom (Scotland)			X
Barry, United Kingdom (Wales)**		X	

Location by Region	Reinforcement Materials	Performance Chemicals	Purification Solutions
Asia Pacific Region			
Jiangsu Province, China**		X	
Jiangxi Province, China**		X	
Tianjin, China**	X	X	
Shanghai, China*(1)	X	X	X
Shanghai, China** (plant)	X		
Xingtai City, China**	X		
Wuhai, China**		X	
Shenzhen, China**		X	
Zhuhai, China**		X	
Mumbai, India*	X	X	X
Cilegon, Indonesia**	X		
Jakarta, Indonesia*(1)	X	X	X
Chiba, Japan	X		
Shimonoseki, Japan**	X		
Tokyo, Japan*(1)	X	X	X
Port Dickson, Malaysia**	X		

(1) Business service center

* Leased premises

** Building(s) owned by Cabot on leased land

We conduct research and development for our various businesses primarily at facilities in Billerica, Massachusetts; Amersfoort, Netherlands; Pampa, Texas; Pepinster, Belgium; Frankfurt, Germany; and Zhuhai and Shanghai, China.

With our existing manufacturing plants and planned expansions, we generally have sufficient production capacity to meet current requirements and expected near-term growth. These plants are generally well maintained, in good operating condition and suitable and adequate for their intended use. Our administrative offices and other facilities are suitable and adequate for their intended purposes.

Item 3. *Legal Proceedings*

Cabot is a party in various lawsuits and environmental proceedings wherein substantial amounts are claimed. Additional information regarding legal proceedings involving Cabot is disclosed in Note T in Item 8 below, under the heading "Contingencies", which disclosure is incorporated herein by reference.

Item 4. *Mine Safety Disclosures*

Not applicable.

Information about our Executive Officers

Set forth below is certain information about Cabot's executive officers as of November 15, 2021.

Sean D. Keohane, age 54, is President and Chief Executive Officer and a member of Cabot's Board of Directors, positions he has held since March 2016. Mr. Keohane joined Cabot in 2002. From November 2014 until March 2016 he was Executive Vice President and President of Reinforcement Materials. From March 2012 until November 2014, he was Senior Vice President and President of Performance Chemicals, and from May 2008 until March 2012, he was General Manager of Performance Chemicals. He was appointed Vice President in March 2005, Senior Vice President in March 2012 and Executive Vice President in November 2014. He was a member of the Interim Office of the Chief Executive Officer, which was in place from December 2015 until March 2016.

Erica McLaughlin, age 45, is Senior Vice President and Chief Financial Officer. Ms. McLaughlin joined Cabot in 2002. She was appointed Senior Vice President and Chief Financial Officer in May 2018, and in October 2018 she assumed responsibility for Corporate Strategy and Development. From June 2016 until May 2018 she was Vice President of Business Operations for Reinforcement Materials and General Manager of the tire business, and from July 2011 until June 2016, she was Vice President of Investor Relations and Corporate Communications. Prior to July 2011, she held a variety of leadership positions in Finance and Corporate Planning.

Karen A. Kalita, age 42, is Senior Vice President and General Counsel. Ms. Kalita joined Cabot in 2008. Prior to assuming her current position in June 2019, she held several key positions in Cabot's Law Department, including Chief Counsel to the Company's Reinforcement Materials segment from November 2015 to June 2019 and Purification Solutions segment from June 2013 to June 2019, and senior legal counsel to the Company's previous Advanced Technologies segment. Prior to joining the Company, Ms. Kalita was in private practice at WilmerHale LLP in Boston, MA.

Hobart C. Kalkstein, age 51, is Senior Vice President and President, Reinforcement Materials Segment and President, Americas Region. Mr. Kalkstein joined Cabot in 2005. Prior to assuming his current role in April 2016, he was Vice President of Corporate Strategy and Development from December 2015 to April 2016. From October 2013 to December 2015, he served as Vice President of Global Business Operations for Purification Solutions and from November 2012 to December 2015 as General Manager of Global Emission Control Solutions for Purification Solutions, and from January 2012 to November 2012 he served as Vice President of Business Operations and Executive Director of Marketing and Business Strategy for Performance Chemicals. Prior to that, he served as General Manager of the Aerogel business from October 2007 to February 2010.

Jeff Zhu, age 53, is Senior Vice President and President, Performance Additives business and President, Asia Pacific Region. Mr. Zhu joined Cabot in 2012. Prior to assuming his current role in October 2019, he had served as President, Asia Pacific Region since joining Cabot. Prior to joining Cabot, Mr. Zhu served in a variety of regional and global business leadership roles at Rhodia from 1994 until 2010, including Asia Pacific regional commercial director from 1994 to 2002, regional vice president and general manager of Rhodia Novacare Asia Pacific from 2002 to 2008, and vice president and global director of Rhodia electronics and catalysis from 2008 to 2010. In addition, Mr. Zhu served as head of global pulp and paper sales at Asia Pacific Resources International Holdings Limited from 2010 to 2012.

PART II

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

Cabot's common stock is listed for trading (symbol CBT) on the New York Stock Exchange. As of November 15, 2021, there were 611 holders of record of Cabot's common stock.

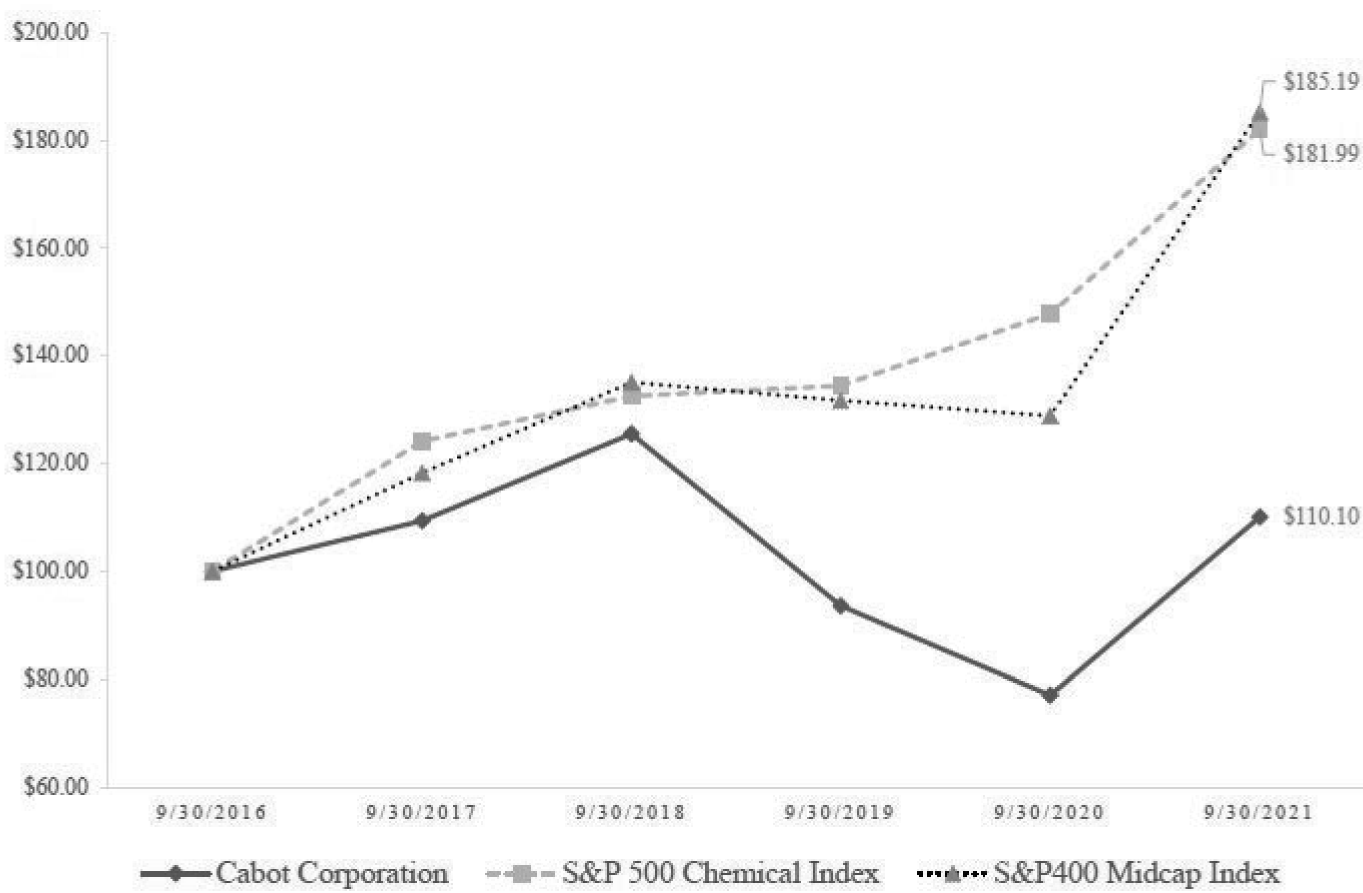
Issuer Purchases of Equity Securities

On July 13, 2018, Cabot publicly announced that the Board of Directors authorized the Company to repurchase up to an additional ten million shares of its common stock on the open market or in privately negotiated transactions, increasing the amount of shares available for repurchase at that time to approximately eleven million shares. The current authorization does not have a set expiration date. As of September 30, 2021, there were 5,023,665 shares available for repurchase under this authorization.

Comparative Stock Performance

The graph compares the cumulative total stockholder return on Cabot common stock for the five-year period ended September 30, 2021 with the S&P 500 Chemicals Index and the S&P Midcap 400 Index. The comparisons assume the investment of $100 on October 1, 2016 in Cabot's common stock and in each of the indices and the reinvestment of all dividends.

The stock price performance on the graph below is not necessarily indicative of future price performance.



The information included under the heading comparative stock performance in Item 5 shall not be deemed to be "soliciting material" or subject to Regulation 14A, shall not be deemed "filed" for purposes of Section 18 of the Exchange Act, or otherwise be subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933, as amended, or the Exchange Act.

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

Critical Accounting Policies

Our consolidated financial statements have been prepared in conformity with U.S. GAAP. This preparation of our financial statements requires management to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues, and expenses and related disclosure of contingent assets and liabilities. We consider an accounting estimate to be critical to the financial statements if (i) the estimate is complex in nature or requires a high degree of judgment and (ii) different estimates and assumptions were used, the results could have a material impact on the consolidated financial statements. On an ongoing basis, we evaluate our estimates and the application of our policies. We base our estimates on historical experience, current conditions and on various other assumptions that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates. The policies that we believe are critical to the preparation of the consolidated financial statements are presented below.

Revenue Recognition

We recognize revenue when our customers obtain control of promised goods or services. The revenue recognized is the amount of consideration which we expect to receive in exchange for those goods or services. Our contracts with customers are generally for products only and do not include other performance obligations. Generally, we consider purchase orders, which in some cases are governed by master supply agreements, to be contracts with customers. The transaction price as specified on the purchase order or sales contract is considered the standalone selling price for each distinct product. To determine the transaction price at the time when revenue is recognized, we evaluate whether the price is subject to adjustments, such as for returns, discounts or volume rebates, which are stated in the customer contract, to determine the net consideration to which we expect to be entitled. Revenue from product sales is recognized based on a point in time model when control of the product is transferred to the customer, which typically occurs upon shipment or delivery of the product to the customer and title, risk and rewards of ownership have passed to the customer. We have an immaterial amount of revenue that is recognized over time. Payment terms typically range from zero to ninety days.

Shipping and handling activities that occur after the transfer of control to the customer are billed to customers and are recorded as sales revenue, as we consider these to be fulfillment costs. Shipping and handling costs are expensed in the period incurred and included in Cost of sales within the Consolidated Statements of Operations. Taxes collected on sales to customers are excluded from the transaction price.

We generally provide a warranty that our products will substantially conform to the identified specifications. Our liability typically is limited to either a credit equal to the purchase price or replacement of the non-conforming product. Returns under warranty have historically been immaterial.

We do not have contract assets or liabilities that are material.

When the period of time between the transfer of control of the goods and the time the customer pays for the goods is one year or less, we do not consider there to be a significant financing component associated with the contract.

Inventory Valuation

Inventories are stated at the lower of cost or net realizable value. The cost of inventories is determined using the FIFO method.

We periodically review inventory for both potential obsolescence and potential declines in anticipated selling prices. In this review, we make assumptions about the future demand for and market value of the inventory, and based on these assumptions estimate the amount of any obsolete, unmarketable, slow moving or overvalued inventory. We write down the value of our inventories by an amount equal to the difference between the cost of the inventory and its estimated net realizable value. Historically, such write-downs have not been material. If actual market conditions are less favorable than those projected by management at the time of the assessment, however, additional inventory write-downs may be required, which could reduce our gross profit and our earnings.

Goodwill Impairment

Goodwill is comprised of the purchase price of business acquisitions in excess of the fair value assigned to the net tangible and identifiable intangible assets acquired. Goodwill is not amortized and is subject to impairment testing annually, or when events or changes in the business environment indicate that the carrying value of the reporting unit may exceed its fair value.

A reporting unit, for the purpose of the impairment test, is at or below the operating segment level, and constitutes a business for which discrete financial information is available and regularly reviewed by segment management. Reinforcement Materials, and the fumed metal oxides, specialty compounds, and specialty carbons product lines within Performance Chemicals, which are considered separate reporting units, carried our goodwill balances as of September 30, 2021.

For the purpose of the goodwill impairment test, we first assess qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If an initial qualitative assessment identifies that it is more likely than not that the carrying value of a reporting unit exceeds its estimated fair value, an additional quantitative evaluation is performed. Alternatively, we may elect to proceed directly to the quantitative goodwill impairment test. If based on the quantitative evaluation the fair value of the reporting unit is less than its carrying amount, a goodwill impairment loss would result. The goodwill impairment loss would be the amount by which the carrying value of the reporting unit, including goodwill, exceeds its fair value, limited to the total amount of goodwill allocated to that reporting unit. The fair value of a reporting unit is based on discounted estimated future cash flows. The assumptions used to estimate fair value include management's best estimates of future growth rates, operating cash flows, capital expenditures and discount rates over an estimate of the remaining operating period at the reporting unit level. The fair value is also benchmarked against the value calculated from a market approach using the guideline public companies method. Based on our most recent annual goodwill impairment test performed as of August 31, 2021, the fair values of the Reinforcement Materials, fumed metal oxides, specialty compounds, and specialty carbons reporting units were substantially in excess of their carrying values.

Long-lived Assets Impairment

Our long-lived assets primarily include property, plant and equipment, intangible assets, and long-term investments. The carrying values of long-lived assets are reviewed for impairment whenever events or changes in business circumstances indicate that the carrying amount of an asset may not be recoverable.

To test for impairment of assets, we generally use a probability-weighted estimate of the future undiscounted net cash flows of the assets over their remaining lives to determine if the value of the asset is recoverable. Long-lived assets are grouped with other assets and liabilities at the lowest level for which independent identifiable cash flows are determinable.

An asset impairment is recognized when the carrying value of the asset is not recoverable based on the analysis described above, in which case the asset is written down to its fair value. If the asset does not have a readily determinable fair value, a discounted cash flow model may be used to determine the fair value of the asset. In circumstances when an asset does not have separately identifiable cash flows, an impairment charge is recorded when we no longer intend to use the asset.

Contingencies

We accrue costs related to contingencies when it is probable that a liability has been incurred and the amount can be reasonably estimated. Contingencies could arise from litigation, environmental remediation or contractual arrangements. When a single liability amount cannot be reasonably estimated, but a range can be reasonably estimated, we accrue the amount that reflects the best estimate within that range or the low end of the range if no estimate within the range would be considered more likely than any other estimate. The amount accrued is determined through the evaluation of various information, which could include claims, settlement offers, demands by government agencies, estimates performed by independent third parties, identification of other responsible parties and an assessment of their ability to contribute, and our prior experience. We do not reduce the estimated liability for possible recoveries from insurance carriers. Proceeds from insurance carriers are recorded when realized by either the receipt of cash or a contractual agreement. Litigation is highly uncertain and there is always the possibility of an unusual result in any particular case that may reduce our earnings and cash flows.

We have recorded a significant reserve for respirator liability claims. Our current estimate of the cost of our share of existing and future respirator liability claims is based on facts and circumstances existing at this time, including the number and nature of the remaining claims. Developments that could affect our estimate include, but are not limited to, (i) significant changes in the number of future claims, (ii) changes in the rate of dismissals without payment of pending claims, (iii) significant changes in the average cost of resolving claims, including potential settlements of groups of claims, (iv) significant changes in the legal costs of defending these claims, (v) changes in the nature of claims received or changes in our assessment of the viability of these claims, (vi) trial and appellate outcomes, (vii) changes in the law and procedure applicable to these claims, (viii) the financial viability of the parties that contribute to the payment of respirator claims, (ix) exhaustion or changes in the recoverability of the insurance coverage maintained by certain of the parties that contribute to the settlement of respirator claims, or a change in the availability of the indemnity provided by a former owner of the business, (x) changes in the allocation of costs among the various parties paying legal and settlement costs, and (xi) a determination that the assumptions that were used to estimate our share of liability are no longer reasonable. We cannot determine the impact of these potential developments on our current estimate of our share of liability for these existing and future claims. Because reserves are limited to amounts that are probable and estimable as of a relevant measurement date, and there is inherent difficulty in projecting the impact of potential developments on our share of liability for these existing and future claims, it is reasonably possible that the liabilities for existing and future claims could change in the near term and that change could be material. Refer to Note T of our Notes to the Consolidated Financial Statements ("Note T") for details on the respirator liabilities and settlements.

Income Taxes

Our business operations are global in nature, and we are subject to taxes in numerous jurisdictions. Tax laws and tax rates vary substantially in these jurisdictions and are subject to change based on the political and economic climate in those countries. We file our tax returns in accordance with our interpretations of each jurisdiction's tax laws.

Significant judgment is required in determining our worldwide provision for income taxes and recording the related tax assets and liabilities. In the ordinary course of our business, there are operational decisions, transactions, facts and circumstances, and calculations which make the ultimate tax determination uncertain. Furthermore, our tax positions are periodically subject to challenge by taxing authorities throughout the world. We have recorded reserves for taxes and associated interest and penalties when it becomes more likely than not that an amount would be payable to tax authorities in future years. Any significant impact as a result of changes in underlying facts, law, tax rates, tax audit, or review could lead to adjustments to our income tax expense, our effective tax rate, and/or our cash flow.

We record benefits for uncertain tax positions based on an assessment of whether the position is more likely than not to be sustained by the taxing authorities. If this threshold is not met, no tax benefit of the uncertain tax position is recognized. If the threshold is met, the tax benefit that is recognized is the largest amount that is greater than 50% likely of being realized upon ultimate settlement. This analysis presumes the taxing authorities' full knowledge of the positions taken and all relevant facts, but does not consider the time value of money. We also accrue for interest and penalties on these uncertain tax positions and include such charges in the income tax provision in the Consolidated Statements of Operations.

Additionally, we have established valuation allowances against a variety of deferred tax assets, including net operating loss carryforwards, foreign tax credits, and other income tax credits. Valuation allowances take into consideration our ability to use these deferred tax assets and reduce the value of such items to the amount that is deemed more likely than not to be recoverable. Our ability to utilize these deferred tax assets is determined in accordance with U.S. GAAP. In jurisdictions where we have a three-year cumulative loss, we utilize recent historical results in order to assess the recoverability of deferred tax assets. Where we have a three-year cumulative profit, we review our forecast of future taxable income in relation to actual results and expected future trends. We perform this review on a quarterly basis. Failure to achieve our operating income targets, may change our assessment regarding the recoverability of our net deferred tax assets and such change could result in an increase in the valuation allowance being recorded against some or all of our net deferred tax assets. An increase in a valuation allowance would result in additional income tax expense, while a release of valuation allowances in periods when these tax attributes become realizable would reduce our income tax expense.

Significant Accounting Policies

We have other significant accounting policies that are discussed in Note A in Item 8 below. Certain of these policies include the use of estimates, but do not meet the definition of critical because they generally do not require estimates or judgments that are as difficult or subjective to measure. However, these policies are important to an understanding of the consolidated financial statements.

Recently Issued Accounting Pronouncements

Refer to the discussion in Note B of our Notes to the Consolidated Financial Statements.

Results of Operations

Cabot is organized into three reportable business segments: Reinforcement Materials, Performance Chemicals, and Purification Solutions. Cabot is also organized for operational purposes into three geographic regions: the Americas; Europe, Middle East and Africa; and Asia Pacific. The discussions of our results of operations for the periods presented reflect these structures.

Our analysis of financial condition and operating results should be read with our consolidated financial statements and accompanying notes. Unless a calendar year is specified, all references to years in this discussion are to our fiscal years ended September 30.

This section discusses our fiscal 2021 and fiscal 2020 results of operations and year-to-year comparisons between fiscal 2021 and fiscal 2020. For the discussions of our fiscal 2019 results and year-to-year comparisons between fiscal 2020 and fiscal 2019, refer to our discussions under the headings "Results of Operations" and "Cash Flows and Liquidity" in Item 7 of the Company's Annual Report on Form 10-K for the fiscal year ended September 30, 2020, which was filed with the United States Securities and Exchange Commission on November 25, 2020.

Definition of Terms and Non-GAAP Financial Measures

When discussing our results of operations, we use several terms as described below.

The term "product mix" refers to the mix of types and grades of products sold or the mix of geographic regions where products are sold, and the positive or negative impact this has on the revenue or profitability of the business and/or segment.

Our discussion under the heading "(Provision) Benefit for Income Taxes and Reconciliation of Effective Tax Rate to Operating Tax Rate" includes a discussion and reconciliation of our "effective tax rate" and our "operating tax rate" for the periods presented, as well as management's projection of our operating tax rate range for the next fiscal year. Our operating tax rate is a non-GAAP financial measure and should not be considered as an alternative to our effective tax rate, the most comparable GAAP financial measure. The operating tax rate excludes income tax (expense) benefit on certain items and discrete tax items. The income tax (expense) benefit on certain items is determined using the applicable rates in the taxing jurisdictions in which the certain items occurred and includes both current and deferred income tax (expense) benefit based on the nature of the certain items. Discrete tax items include, but are not limited to, changes in valuation allowance, uncertain tax positions, and other tax items, such as the tax impact of legislative changes. Our definition of the operating tax rate may not be comparable to the definition used by other companies. Management believes that this non-GAAP financial measure is useful supplemental information because it helps our investors compare our tax rate year to year on a consistent basis and to understand what our tax rate on current operations would be without the impact of these items.

Our discussion under the heading "Fiscal 2021 compared to Fiscal 2020—By Business Segment" includes a discussion of Total segment EBIT, which is a non-GAAP financial measure defined as Income (loss) from continuing operations before income taxes and equity in earnings from affiliated companies less certain items and other unallocated items. Our Chief Operating Decision Maker, who is our President and Chief Executive Officer, uses segment EBIT to evaluate the operating results of each segment and to allocate resources to the segments. We believe Total segment EBIT, which reflects the sum of EBIT from our reportable segments, provides useful supplemental information for our investors as it is an important indicator of our operational strength and performance, allows investors to see our results through the eyes of management, and provides context for our discussion of individual business segment performance. Total segment EBIT should not be considered an alternative for Income (loss) from continuing operations before income taxes and equity in earnings of affiliated companies, which is the most directly comparable U.S. GAAP financial measure. A reconciliation of Total segment EBIT to Income (loss) from continuing operations before income taxes and equity in earnings of affiliated companies is provided under the heading "Fiscal 2021 compared to Fiscal 2020—By Business Segment". Investors should consider the limitations associated with this non-GAAP measure, including the potential lack of comparability of this measure from one company to another.

In calculating Total segment EBIT, we exclude from our Income (loss) from continuing operations before income taxes and equity in earnings of affiliated companies (i) items of expense and income that management does not consider representative of our fundamental on-going segment results, which we refer to as "certain items", and (ii) items that, because they are not controlled by the business segments and primarily benefit corporate objectives, are not allocated to our business segments, such as interest expense and other corporate costs, which include unallocated corporate overhead expenses such as certain corporate salaries and headquarter expenses, plus costs related to special projects and initiatives, which we refer to as "other unallocated items". Management believes excluding the items identified as certain items facilitates operating performance comparisons from period to period by eliminating differences caused by the existence and timing of certain expense and income items that would not otherwise be apparent on a U.S. GAAP basis and also facilitates an evaluation of our operating performance without the impact of these costs or benefits. The items of income and expense that we have excluded from Total segment EBIT, as applicable, but that are included in our U.S. GAAP Income (loss) from continuing operations before income taxes and equity in earnings of affiliated companies, as applicable, are described below.

- Global restructuring activities, which include costs or benefits associated with cost reduction initiatives or plant closures and are primarily related to (i) employee termination costs, (ii) asset impairment charges associated with restructuring actions, (iii) costs to close facilities, including environmental costs and contract termination penalties and (iv) gains realized on the sale of land or equipment associated with restructured plants or locations.
- Non-recurring gains (losses) on foreign exchange, which primarily relate to the impact of controlled currency devaluations on our net monetary assets denominated in that currency.
- Legal and environmental matters and reserves, which consist of costs or benefits for matters typically related to former businesses or that are otherwise incurred outside of the ordinary course of business.
- Executive transition costs, which include incremental charges, including stock compensation charges, associated with the retirement or termination of employment of senior executives of the Company.
- Asset impairment charges, which primarily include charges associated with an impairment of goodwill or other long-lived assets.

- Acquisition and integration-related charges, which include transaction costs, redundant costs incurred during the period of integration, and costs associated with transitioning certain management and business processes to our processes.
- Gains (losses) on sale of investments, which primarily relate to the sale of investments accounted for using the cost method.
- Inventory reserve adjustment, which result from an evaluation performed as part of an impairment analysis.
- Indirect tax settlement credits, which includes favorable settlements resulting in the recoveries of indirect taxes.
- Gains (losses) on sale of businesses.
- Employee benefit plan settlements, which consist of either charges or benefits associated with the termination of a pension plan or the transfer of a pension plan to a multi-employer plan.

Drivers of Demand and Key Factors Affecting Profitability

Drivers of demand and key factors affecting our profitability differ by segment. In Reinforcement Materials, longer term demand is driven primarily by: i) the number of vehicle miles driven globally; ii) the number of original equipment and replacement tires produced; and iii) the number of automotive builds. Over the past several years, operating results have been driven by a number of factors, including: i) increases or decreases in our sales volumes driven by changes in production levels for tires or industrial rubber products and the level at which we service that demand; ii) changes in raw material costs and our ability to adjust the sales price for our products commensurate with changes in raw material costs; iii) changes in pricing and product mix, which includes customer pricing as well as the mix of products sold or the region in which they are sold; iv) global and regional capacity utilization for carbon black; v) fixed cost savings achieved through restructuring and other cost saving activities; vi) the growth of our volumes and market position in emerging economies; vii) capacity management and technology investments, including the impact of energy utilization and yield improvement technologies at our manufacturing facilities; and viii) royalties and technology payments related to our patented elastomer composites technology that is used in tire applications.

In Performance Chemicals, longer term demand is driven primarily by the construction and infrastructure, automotive, electronics and consumer products industries. In recent years, operating results in Performance Chemicals have been driven by: i) increases or decreases in sales volumes to the industries previously noted; ii) changes in pricing and product mix, which includes customer pricing as well as the mix of products sold or the region in which they are sold; iii) our ability to deliver differentiated products that drive enhanced performance in customers' applications; iv) our ability to obtain value pricing for this differentiation; v) the cost of new capacity; vi) changes in selling prices relative to variations in the cost of raw materials; and vii) the adoption of new products for use in our customers' applications.

In Purification Solutions, longer term demand is driven primarily by the demand for activated carbon based solutions for water, gas and air, pharmaceuticals, food and beverages, catalysts and other chemical applications. Operating results in Purification Solutions have been influenced by: i) changes in our sales volumes in the various applications previously noted; ii) management of our operations, including inventory levels, and the commensurate costs; iii) changes in price and product mix; iv) industry capacity utilization; and v) implementation of cost savings initiatives as part of a transformation plan.

Overview of Results for Fiscal 2021

Our business saw a strong rebound in results of operations in fiscal 2021 compared to fiscal 2020 which was adversely affected by the COVID-19 pandemic and its impact on our customers and our operations. In fiscal 2021, we saw a recovery in demand from the COVID-19 pandemic driven declines we experienced in fiscal 2020, as volumes in our Performance Chemicals segment returned to pre-COVID-19 levels, and volumes in our Reinforcement Materials segment returned to just slightly below pre-COVID-19 levels.

Despite this improvement in demand for our products, the duration and scope of the COVID-19 pandemic continues to be uncertain as infection rates remain high in many parts of the world. In addition, the COVID-19 pandemic and other factors are having a negative impact on the cost and availability of global transportation and the availability of semi-conductor chips for the automotive industry. While we expect these global supply chain disruptions and the semi-conductor chip shortage to impact our Performance Chemicals segment in the short-term, if they persist or intensify, they could further negatively impact our results. Further, the COVID-19 pandemic has also contributed to increased costs and decreased availability of labor and materials for construction projects, and these factors have increased the costs of our capital improvement projects and may delay our completion of such projects.

If there is a resurgence in the COVID-19 pandemic impacting our business, it could cause us to recognize write-downs or impairments for certain assets or result in a reduction in our borrowing availability under our credit agreements. These factors could also result in an adverse impact on our revenue as well as our overall profitability.

Fiscal 2021 compared to Fiscal 2020—Consolidated

Net Sales and Other Operating Revenues and Gross Profit

	Years Ended September 30	
	2021	2020
	(In millions)	
Net sales and other operating revenues	$ 3,409	$ 2,614
Gross profit	$ 799	$ 500

Net sales increased by $795 million in fiscal 2021 when compared to fiscal 2020. The increase in net sales was primarily driven by favorable price and product mix (combined $333 million), higher volumes ($324 million), and the favorable impact from foreign currency translation ($86 million). The favorable price and product mix in the Reinforcement Materials segment was due to improved product mix in all regions and higher prices from higher feedstock costs that are generally passed through to our customers. The favorable price and product mix in the Performance Chemicals segment was driven by higher sales into automotive applications and targeted growth applications and price increases to recover rising raw material and other costs. The higher volumes in fiscal 2021 were driven by stronger demand across all regions due to the recovery from demand declines in fiscal 2020 related to the COVID-19 pandemic.

Gross profit increased by $299 million in fiscal 2021 when compared to fiscal 2020. The gross profit increase was primarily due to higher volumes across all regions, higher unit margins in the Reinforcement Materials segment due to stronger pricing in Asia and higher unit margins in the Performance Chemicals segment due to higher demand in automotive applications and in targeted growth applications.

Selling and Administrative Expenses

	Years Ended September 30	
	2021	2020
	(In millions)	
Selling and administrative expenses	$ 289	$ 292

Selling and administrative expenses decreased by $3 million in fiscal 2021 when compared to fiscal 2020. The decrease was due primarily to reduced legal expenses, partially offset by an increase in incentive compensation.

Research and Technical Expenses

	Years Ended September 30	
	2021	2020
	(In millions)	
Research and technical expenses	$ 56	$ 57

Research and technical expenses decreased by $1 million in fiscal 2021 when compared to fiscal 2020.

Impairment Charges and Loss on Sale

	Years Ended September 30	
	2021	2020
	(In millions)	
Specialty Fluids loss on sale and asset impairment charge	$ —	$ 1
Marshall Mine loss on sale and asset impairment charge	$ —	$ 129

The loss on sale and asset impairment charges recorded during fiscal 2020 are described in Note D of our Notes to the Consolidated Financial Statements (“Note D”).

Interest and Dividend Income

	Years Ended September 30	
	2021	2020
	(In millions)	
Interest and dividend income	$ 8	$ 8

Interest and dividend income in fiscal 2021 remained flat when compared to fiscal 2020.

Interest Expense

	Years Ended September 30	
	2021	2020
	(In millions)	
Interest expense	$ 49	$ 53

Interest expense decreased by $4 million in fiscal 2021 as compared to fiscal 2020. The decrease was primarily due to lower average interest rates, partially offset by higher average balances.

Other Income (Expense)

	Years Ended September 30	
	2021	2020
	(In millions)	
Other income (expense)	$ (7)	$ (9)

Other expense decreased during fiscal 2021 by $2 million as compared to fiscal 2020. The change was primarily due to termination of the U.S. pension plan in fiscal 2020.

Provision (Benefit) for Income Taxes and Reconciliation of Effective Tax Rate to Operating Tax Rate

	Years Ended September 30			
	2021		2020	
(Dollars in millions)	(Provision) / Benefit for Income Taxes	Rate	(Provision) / Benefit for Income Taxes	Rate
Effective tax rate[1]	$ (123)	30%	$ (191)	-587%
Less: Non-GAAP tax adjustments[2]	(4)		(139)	
Operating tax rate	$ (119)	27%	$ (52)	28%

(1) Refer to the reconciliation of computed tax expense at the federal statutory rate to the Provision (benefit) for income taxes in Note R.

(2) Non-GAAP tax adjustments made to arrive at the operating tax provision include the income tax (expense) benefit on certain items and discrete tax items, as further described above under the heading "Definition of Terms and Non-GAAP Financial Measures".

For the year ended September 30, 2021, the (Provision) benefit for income taxes was a $123 million expense compared to a $191 million expense for the fiscal year 2020. Included in the non-GAAP tax adjustment for fiscal 2020 is the tax impact for a valuation allowance charge recorded against U.S. deferred tax assets, as described in Note R to our financial statements. Our income taxes are affected by the mix of earnings in the tax jurisdictions in which we operate, and the presence of valuation allowances in certain tax jurisdictions.

For fiscal year 2022, the Operating tax rate is expected to be in the range of 27% to 29%. We are not providing a forward-looking reconciliation of the operating tax rate range with an effective tax rate range because, without unreasonable effort, we are unable to predict with reasonable certainty the matters we would allocate to "certain items," including unusual gains and losses, costs associated with future restructurings, acquisition-related expenses and litigation outcomes. These items are uncertain, depend on various factors, and could have a material impact on the effective tax rate in future periods.

Equity in Earnings of Affiliated Companies and Net Income (Loss) Attributable to Noncontrolling Interest, Net of Tax

	Years Ended September 30	
	2021	2020
	(In millions)	
Equity in earnings of affiliated companies, net of tax	$ 3	$ 3
Net income (loss) attributable to noncontrolling interests, net of tax	$ 36	$ 17

Equity in earnings of affiliated companies, net of tax, was flat in fiscal 2021 compared to fiscal 2020.

Net income (loss) attributable to noncontrolling interests, net of tax, increased by $19 million in fiscal 2021 compared to fiscal 2020 primarily due to the higher profitability of our joint ventures in China and the Czech Republic.

Net Income (Loss) Attributable to Cabot Corporation

In fiscal 2021, we reported net income attributable to Cabot Corporation of $250 million ($4.34 earnings per diluted common share). In fiscal 2020, we reported a net loss attributable to Cabot Corporation of $238 million ($4.21 loss per diluted common share). The increase in fiscal 2021 is primarily due to higher Segment EBIT, a $228 million expense related to the tax valuation allowance in fiscal 2020 that did not recur in fiscal 2021 as discussed in Note R, and a $129 million loss on sale and asset impairment charge in fiscal 2020 related to our manufacturing facility and our former lignite mine in Marshall, TX that did not recur in fiscal 2021 as discussed in Note D.

Fiscal 2021 compared to Fiscal 2020—By Business Segment

Income (loss) from continuing operations before income taxes and equity in earnings of affiliated companies, certain items, pre-tax, other unallocated items and Total segment EBIT for fiscal 2021 and 2020 are set forth in the table below. The details of certain items and other unallocated items are shown below and in Note U of our Notes to the Consolidated Financial Statements.

	Years Ended September 30	
	2021	2020
	(In millions)	
Income (loss) from continuing operations before income taxes and equity in earnings of affiliated companies	$ 406	$ (33)
Less: Certain items, pre-tax	(34)	(218)
Less: Other unallocated items	(110)	(98)
Total segment EBIT	$ 550	$ 283

In fiscal 2021, Income (loss) from continuing operations before income taxes and equity in earnings of affiliated companies increased by $439 million and Total Segment EBIT increased by $267 million. The increase in Income (loss) before income taxes and equity earnings of affiliated companies was driven by increased Total Segment EBIT and a $129 million charge for the loss on sale and asset impairment charge during fiscal 2020 related to our manufacturing facility and our former lignite mine in Marshall, TX that did not recur. The increase in Total segment EBIT was driven by higher volumes and unit margins, partially offset by higher fixed costs in our Reinforcement Materials and Performance Chemicals segments. Higher volumes in the Reinforcement Materials ($106 million) and Performance Chemicals ($59 million) segments were driven by stronger demand across all regions and key end markets due to continued market recovery from the declines in demand during fiscal 2020 driven by the COVID-19 pandemic. Higher unit margins in the Reinforcement Materials segment ($96 million) were primarily driven by improved pricing in Asia. Higher unit margins in the Performance Chemicals segment ($54 million) were largely due to favorable product mix in our specialty carbons, specialty compounds and fumed metal oxides product lines as a result of higher demand in automotive applications and targeted growth applications.

Certain Items:

Details of the certain items for fiscal 2021 and 2020 are as follows:

	Years Ended September 30	
	2021	2020
	(In millions)	
Indirect tax settlement credits	$ 12	$ 3
Legal and environmental matters and reserves (Note T)	(25)	(54)
Global restructuring activities (Note O)	(11)	(19)
Acquisition and integration-related charges (Note C)	(5)	(5)
Employee benefit plan settlements and other charges (Note M)	(4)	(10)
Marshall Mine loss on sale and asset impairment charge (Note D)	—	(129)
Inventory reserve adjustment	—	(2)
Specialty Fluids loss on sale and asset impairment charge (Note D)	—	(1)
Other certain items	(1)	(1)
Total certain items, pre-tax	(34)	(218)
Non-GAAP tax adjustments	(4)	(139)
Total certain items, net of tax	$ (38)	$ (357)

An explanation of these items of expense and income is included in our discussion under the heading “Definition of Terms and Non-GAAP Financial Measures”.

Other Unallocated Items:

	Years Ended September 30	
	2021	2020
	(In millions)	
Interest expense	$ (49)	$ (53)
Unallocated corporate costs	(58)	(41)
General unallocated income (expense)	—	(1)
Less: Equity in earnings of affiliated companies, net of tax	3	3
Total other unallocated items	$ (110)	$ (98)

A discussion of items that we refer to as "other unallocated items" can be found under the heading "Definition of Terms and Non-GAAP Financial Measures". The balances of unallocated corporate costs are primarily comprised of expenditures related to managing a public company that are not allocated to the segments and corporate business development costs related to ongoing corporate projects. The balances of General unallocated income (expense) consist of gains (losses) arising from foreign currency transactions, net of other foreign currency risk management activities, interest income, dividend income, the profit or loss related to the corporate adjustment for unearned revenue, and the impact of including the full operating results of a contractual joint venture in Purification Solutions Segment EBIT.

In fiscal 2021, Total other unallocated items increased by $12 million when compared to fiscal 2020 due to the increase in Unallocated corporate costs for corporate projects and higher incentive compensation partially offset by the reduction in Interest income (expense).

Reinforcement Materials

Sales and EBIT for Reinforcement Materials for fiscal 2021 and 2020 are as follows:

	Years Ended September 30	
	2021	2020
	(In millions)	
Reinforcement Materials Sales	$ 1,781	$ 1,256
Reinforcement Materials EBIT	$ 329	$ 162

In fiscal 2021, sales in Reinforcement Materials increased by $525 million when compared to fiscal 2020. The increase was primarily due to higher volumes ($242 million), a favorable price and product mix (combined $248 million), and a favorable impact from foreign currency translation ($35 million). The higher volumes in fiscal 2021 were driven by stronger demand across all regions as compared to fiscal 2020 due to demand declines resulting from the COVID-19 pandemic. The favorable price and product mix was primarily due to higher prices from higher feedstock costs that are generally passed through to our customers.

In fiscal 2021, Reinforcement Materials EBIT increased by $167 million when compared to fiscal 2020. The increase was driven by higher volumes ($106 million), higher unit margins ($96 million), and a favorable impact from foreign currency translation ($4 million). These factors were partially offset by higher fixed costs ($39 million). The higher volumes in fiscal 2021 were driven by stronger demand across all regions as compared to fiscal 2020 due to demand declines resulting from the COVID-19 pandemic. The higher unit margins were driven by stronger pricing in Asia. The higher fixed costs were primarily due to higher maintenance costs after deferrals in the prior year.

In fiscal 2022, we expect to benefit from higher pricing in our 2022 calendar year customer agreements as we believe customers are placing a premium on supply security, and higher volumes driven by robust levels of tire production.

Performance Chemicals

Sales and EBIT for Performance Chemicals for fiscal 2021 and 2020 are as follows:

	Years Ended September 30	
	2021	2020
	(In millions)	
Performance Additives Sales	$ 796	$ 645
Formulated Solutions Sales	352	288
Performance Chemicals Sales	$ 1,148	$ 933
Performance Chemicals EBIT	$ 211	$ 118

In fiscal 2021, sales in Performance Chemicals increased by $215 million when compared to fiscal 2020. The increase was primarily due to higher volumes ($98 million), favorable price and product mix (combined $75 million), and the favorable impact from foreign currency translation ($42 million). The higher volumes were primarily due to stronger demand across our key product lines and inventory replenishment by our customers. The favorable product mix was primarily due to higher demand in automotive applications.

In fiscal 2021, EBIT in Performance Chemicals increased by $93 million compared to fiscal 2020 primarily due to increased volumes ($59 million), higher unit margins ($54 million), and a favorable impact from foreign currency translation ($7 million), partially offset by higher fixed costs ($29 million). Higher volumes across all product lines resulted from continuing strength in demand and inventory replenishment by our customers. Favorable unit margins were driven by higher demand in automotive applications and in targeted growth applications. Increased fixed costs were driven by increased production activity, higher depreciation from the startup of our new fumed metal oxides plant, and higher maintenance costs after deferrals in the prior year.

In fiscal 2022, we anticipate continued demand growth across the segment driven by lessening pandemic impacts and supply chain stabilization as we move through the fiscal year, as well as strong fundamentals in key end use industries, augmented by the high-growth areas of battery materials and inkjet in commercial and packaging printing applications. While external challenges, such as rising input costs, global supply chain disruptions and the semi-conductor chip shortage, are likely to remain in the short-term, we expect the impact to moderate as we move through the fiscal year and expect to recover rising input costs through price increases.

Purification Solutions

Sales and EBIT for Purification Solutions for fiscal 2021 and 2020 are as follows:

	Years Ended September 30	
	2021	2020
	(In millions)	
Purification Solutions Sales	$ 257	$ 253
Purification Solutions EBIT	$ 10	$ 3

Sales in Purification Solutions increased by $4 million in fiscal 2021 when compared to fiscal 2020 due to improved pricing and a more favorable product mix (combined $11 million) and the favorable impact from foreign currency translation ($9 million), partially offset by lower volumes ($16 million). The favorable price and product mix was driven by a shift towards our specialty applications. The lower volumes were primarily due to lower sales in mercury removal products.

EBIT in Purification Solutions increased by $7 million in fiscal 2021 when compared to fiscal 2020 due to a reduction in fixed costs ($14 million), partially offset by lower volumes ($8 million). The reduction in fixed costs was driven by the sale of our mine in Marshall, TX and the related long-term activated carbon supply agreement. The lower volumes were primarily due to a decrease in sales of mercury removal products.

On November 25, 2021, we entered into a Share Purchase Agreement with an affiliate of funds advised by One Equity Partners (“OEP”) for the sale of our Purification Solutions business, subject to the satisfaction or waiver of the conditions set forth in the agreement. We expect to close the transaction in the second quarter of fiscal 2022.

Liquidity and Capital Resources

Overview

Our liquidity position, as measured by cash and cash equivalents plus borrowing availability, decreased by $128 million during fiscal 2021, which was largely attributable to the termination of our $100 million unsecured revolving credit agreement with TD Bank, NA, as Lender which had a maturity date of September 2021 (the “Canadian Credit Agreement”) in the second quarter of fiscal 2021, higher net working capital, and capital expenditures, partially offset by improved earnings from operations. The Canadian Credit Agreement provided liquidity for working capital and general corporate purposes for certain of our Canadian subsidiaries. We had no borrowings under this agreement during either fiscal 2021 or 2020.

As of September 30, 2021, we had cash and cash equivalents of $168 million and borrowing availability under our revolving credit agreements of $1.1 billion.

We have access to borrowings under the following two credit agreements:

- $1 billion unsecured revolving credit agreement (the “U.S. Credit Agreement”) with JPMorgan Chase Bank, N.A., as Administrative Agent, Citibank, N.A., as Syndication Agent, and the other lenders party thereto, which matures in August 2026, subject to two one-year options to extend the maturity, exercisable on or prior to August 6, 2022 and August 6, 2023. The U.S. Credit Agreement supports our issuance of commercial paper, and borrowings under it may be used for working capital, letters of credit and other general corporate purposes.

- €300 million unsecured revolving credit agreement (the "Euro Credit Agreement", and together with the U.S. Credit Agreement, the "Credit Agreements"), with Wells Fargo Bank, National Association, as Administrative Agent, and the other lenders party thereto, which matures in May 2024 or earlier upon maturity of the U.S. Credit Agreement. Borrowings under the Euro Credit Agreement may be used for the repatriation of earnings of our foreign subsidiaries to the United States, the repayment of indebtedness of our foreign subsidiaries owing to us or any of our subsidiaries and for working capital and general corporate purposes.

As of September 30, 2021, we were in compliance with the debt covenants under the Credit Agreements, which, with limited exceptions, generally require us to comply on a quarterly basis with a leverage test. The U.S. Credit Agreement requires a leverage ratio of net debt, with the ability to offset such debt by the lesser of (i) unrestricted cash and cash equivalents and (ii) $150 million, to consolidated EBITDA not to exceed 3.50 to 1.00. The Euro Credit Agreement required a leverage ratio of total debt to consolidated EBITDA not to exceed 3.50 to 1.00. Effective October 19, 2021, we amended the Euro Credit Agreement to include a leverage test using net debt, consistent with the U.S. Credit Agreement.

A significant portion of our business occurs outside the U.S. and our cash generation does not always align geographically with our cash needs. The vast majority of our cash and cash equivalent holdings tend to be held outside the U.S. Cash held by foreign subsidiaries is generally used to finance the subsidiaries' operational activities and future investments. We are currently using a combination of commercial paper and borrowings from the U.S. Credit Agreement to meet our U.S. cash needs. We generally reduce our commercial paper balance and, if applicable, borrowings under our Credit Agreements, at quarter-end using cash derived from customer collections, settlement of intercompany balances and short-term intercompany loans. If additional funds are needed in the U.S., we expect to be able to repatriate funds or to access additional debt under the Credit Agreements. As of September 30, 2021, we had $71 million of commercial paper outstanding and our borrowings under the Euro Credit Agreement totaled $134 million.

We generally manage our cash and debt on a global basis to provide for working capital requirements as needed by region or site. Cash and debt are generally denominated in the local currency of the subsidiary holding the assets or liabilities, except where there are operational cash flow reasons to hold non-functional currency or debt.

We anticipate sufficient liquidity from (i) cash on hand; (ii) cash flows from operating activities; and (iii) cash available from the Credit Agreements and our commercial paper program to meet our operational and capital investment needs and financial obligations for the foreseeable future. The liquidity we derive from cash flows from operations is, to a large degree, predicated on our ability to collect our receivables in a timely manner, the cost of our raw materials, and our ability to manage inventory levels.

The following discussion of the changes in our cash balance refers to the various sections of our Consolidated Statements of Cash Flows.

Cash Flows from Operating Activities

Cash provided by operating activities, which consists of net income adjusted for the various non-cash items included in income, changes in working capital and changes in certain other balance sheet accounts, totaled $257 million in fiscal 2021. Operating activities provided $377 million of cash in fiscal 2020.

Cash provided by operating activities in fiscal 2021 was driven by business earnings excluding the non-cash impacts of depreciation and amortization of $160 million, which was partially offset by an increase in net working capital of $222 million. The increase in net working capital was driven by an increase in accounts receivable due to higher sales and an increase in inventory driven by a higher cost of raw materials, partially offset by an increase in accounts payable. Additionally, we made a cash payment of $33 million in the first quarter of fiscal 2021 related to the settlement of a large group of respirator claims in fiscal 2020 as discussed in Note T.

Cash provided by operating activities in fiscal 2020 was driven by business earnings excluding the non-cash impacts of depreciation and amortization of $158 million, the loss on sale and asset impairment of $129 million related to our manufacturing facility and our former lignite mine in Marshall, TX, and a deferred tax provision of $130 million which was primarily driven by a change in our tax valuation allowance. In addition, cash provided by operating activities benefited from lower net working capital balances, including a decrease in Accounts and notes receivable of $126 million, and a decrease in our Inventories of $114 million, partially offset by a decrease in Accounts payable and accrued liabilities of $55 million.

In addition to the factors noted above, the following other elements of operations have a bearing on operating cash flows:

Restructurings — As of September 30, 2021, we had $9 million of total restructuring costs in accrued expenses in the Consolidated Balance Sheets related to our global restructuring activities. We made cash payments of $9 million during fiscal 2021. We expect to make additional cash payments of approximately $11 million in fiscal 2022 and $4 million thereafter.

Litigation Matters — As of September 30, 2021, we had a $44 million reserve for existing and future respirator claims that we expect to pay over multiple years. During fiscal 2020, we settled a large group of respirator claims for $65 million. We paid half of this settlement during fiscal 2020, and the remainder in the first quarter of fiscal 2021. We also have other lawsuits, claims and contingent liabilities arising in the ordinary course of business.

Cash Flows from Investing Activities

Investing activities consumed $186 million of cash in fiscal 2021 compared to $288 million in fiscal 2020. In fiscal 2021, the use of cash by investing activities primarily consisted of $195 million of capital expenditures for sustaining and compliance capital projects at our operating facilities as well as growth-related capital, including a capacity expansion project in Performance Chemicals.

In fiscal 2020, the use of cash by investing activities primarily consisted of $200 million of capital expenditures for sustaining and compliance capital projects at our operating facilities as well as capacity expansion capital expenditures in Reinforcement Materials and Performance Chemicals, an $84 million payment, net of cash acquired, for the SUSN acquisition in April 2020 and an $8 million payment for the plant that we acquired from NSCC in September 2018.

Capital expenditures for fiscal 2022 are expected to be between $225 million and $250 million. Our planned capital spending program for fiscal 2022 is primarily for sustaining, compliance and improvement capital projects at our operating facilities as well as capacity expansion capital expenditures in Performance Chemicals.

Cash Flows from Financing Activities

Financing activities consumed $60 million of cash in fiscal 2021 compared to $132 million in fiscal 2020. The use of cash by financing activities in fiscal 2021 primarily consisted of dividend payments to stockholders of $80 million, dividend payments to noncontrolling interests of $19 million, and net repayments of long-term debt of $22 million, which consisted of proceeds of $200 million less repayments of $222 million, partially offset by net proceeds from the issuance of commercial paper of $58 million.

The use of cash by financing activities in fiscal 2020 primarily consisted of dividend payments to stockholders of $80 million, share repurchases of $44 million, dividend payments to noncontrolling interests of $26 million, the repayment of $16 million of long-term debt and the net repayment of $19 million of commercial paper, partially offset by the net proceeds from borrowings under our revolvers of $50 million, which includes proceeds of $444 million less repayments of $394 million.

At September 30, 2021, we had $1.1 billion of availability under our Credit Agreements. Although we typically have an outstanding commercial paper balance during the quarter, we generally reduce the balance at quarter-end through cash receipts from collections, settlement of intercompany balances and short-term intercompany loans. There was $71 million and $14 million of commercial paper outstanding at September 30, 2021 and 2020, respectively.

Our long-term total debt, of which $373 million is current, matures at various times as presented in Note I of our Notes to the Consolidated Financial Statements. Our current plan is to refinance the $350 million in registered notes with a coupon of 3.7% that mature in July of 2022 during the first half of calendar 2022. The weighted-average interest rate on our fixed rate long-term debt was 3.84% as of September 30, 2021.

Share Repurchases

In fiscal 2018, our Board of Directors authorized us to repurchase up to 10 million shares of common stock. We did not repurchase any shares during fiscal 2021. We repurchased 0.9 million shares of our common stock on the open market for $39 million during fiscal 2020. Additionally, during both fiscal 2021 and fiscal 2020 we repurchased 0.1 million shares of our common stock associated with employee tax obligations on stock-based compensation awards for $3 million and $5 million, respectively. As of September 30, 2021, we had approximately 5 million shares available for repurchase under the Board of Directors' share repurchase authorization.

Dividend Payments

In both fiscal 2021 and fiscal 2020, we paid cash dividends on our common stock of $1.40 per share, respectively. These cash dividend payments totaled $80 million in both fiscal 2021 and fiscal 2020.

Employee Benefit Plans

As of September 30, 2021, we had a consolidated pension obligation, net of the fair value of plan assets, of $51 million, comprised of $7 million for pension benefit plan liabilities and $44 million for postretirement benefit plan liabilities.

The $7 million of unfunded pension benefit plan liabilities is derived as follows:

	U.S.	Foreign	Total
		(In millions)	
Fair value of plan assets	$ —	$ 217	$ 217
Benefit obligation	3	221	224
Funded (unfunded) status	$ (3)	$ (4)	$ (7)

In fiscal 2021, we made cash contributions totaling $5 million to our pension benefit plans. In fiscal 2022, we expect to make cash contributions of $3 million to our pension plans.

The $44 million of unfunded postretirement benefit plan liabilities is comprised of $25 million for our U.S. and $19 million for our foreign postretirement benefit plans. These postretirement benefit plans provide certain health care and life insurance benefits for retired employees. Typical of such plans, our postretirement plans are unfunded and, therefore, have no plan assets. We fund these plans as claims or insurance premiums come due. In fiscal 2021, we paid postretirement benefits of $3 million. For fiscal 2022, our benefit payments for our postretirement plans are expected to be $3 million.

In fiscal 2019, our Board of Directors approved a resolution to terminate the U.S. pension plan. We commenced the U.S. plan termination process during the third quarter of fiscal 2019 and completed the transfer of the U.S. plan's assets to participants during fiscal 2021. The pension liability was settled through a combination of lump-sum payments and purchased annuities, neither of which required an additional cash contribution. In fiscal 2020, we recognized a settlement loss of $3 million related to lump-sum payments made to participants who elected this option, which was recorded in Other income (expense) in the Consolidated Statements of Operations. In fiscal 2021, we recognized an additional $4 million settlement loss in Other income (expense) related to the final asset transfers through purchased annuities.

Contractual Obligations

The following table sets forth our long-term contractual obligations.

	Payments Due by Fiscal Year						
	2022	2023	2024	2025	2026	Thereafter	Total
				(In millions)			
Purchase commitments	$ 260	$ 186	$ 186	$ 185	$ 187	$ 1,786	$ 2,790
Long-term debt	369	—	134	—	250	308	1,061
Fixed interest on long-term debt	36	21	21	21	21	37	157
Variable interest on long-term debt	2	2	1	—	—	—	5
Finance leases[1]	5	5	5	4	4	18	41
Operating leases[1]	16	14	11	10	9	57	117
Total	$ 688	$ 228	$ 358	$ 220	$ 471	$ 2,206	$ 4,171

(1) Lease liabilities include interest.

Purchase Commitments

We have entered into long-term, volume-based purchase agreements primarily for the purchase of raw materials and natural gas with various key suppliers for all of our business segments. Under certain of these agreements the quantity of material being purchased is fixed, but the price we pay changes as market prices change. For purposes of the table above, current purchase prices have been used to quantify total commitments. We have also entered into long-term purchase agreements primarily for services related to information technology, which are not included in the table above, that total $7 million as of September 30, 2021, the majority of which is expected to be paid within the next 5 years.

Leases

We have entered into various leases as the lessee, primarily related to certain transportation vehicles, warehouse facilities, office space, and machinery and equipment. These leases have remaining lease terms between one and eighteen years, some of which may include options to extend the leases for up to fifteen years or options to terminate the leases. Our land leases have remaining lease terms up to sixty-nine years.

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

We are exposed to changes in interest rates and foreign currency exchange rates because we finance certain operations through long- and short-term borrowings and denominate our transactions in a variety of foreign currencies. Changes in these rates may have an impact on future cash flows and earnings. We manage these risks through normal operating and financing activities and, when deemed appropriate, through the use of derivative financial instruments.

We have policies governing our use of derivative instruments, and we do not enter into financial instruments for trading or speculative purposes.

By using derivative instruments, we are subject to credit and market risk. The derivative instruments are booked in our balance sheet at fair value and reflect the asset or liability position as of September 30, 2021. If a counterparty fails to fulfill its performance obligations under a derivative contract, our exposure will equal the fair value of the derivative. Generally, when the fair value of a derivative contract is positive, the counterparty owes Cabot, thus creating a payment risk for Cabot. We minimize counterparty credit or repayment risk by entering into these transactions with major financial institutions of investment grade credit rating. Our exposure to market risk is not hedged in a manner that completely eliminates the effects of changing market conditions on earnings or cash flow.

Foreign Currency Risk

Our international operations are subject to certain risks, including currency exchange rate fluctuations and government actions. We have cross-currency swaps designated as hedges of our net investments in certain Euro denominated subsidiaries. The following table summarizes the principal terms of our cross-currency swaps, including the aggregate notional amount of the swaps, the interest rate payment we receive from and pay to our swap counterparties, the term and fair value at September 30, 2021 and September 30, 2020.

Description	Notional Amount	Interest Rate Received	Interest Rate Paid	Fiscal Year Entered Into	Maturity Year	Fair Value at September 30, 2021	Fair Value at September 30, 2020
Cross Currency Swaps	USD 250 million swapped to EUR 223 million	3.40%	1.94%	2016	2026	$3 million	$(1) million

We also have foreign currency exposures arising from the denomination of monetary assets and liabilities in foreign currencies other than the functional currency of a given subsidiary as well as the risk that currency fluctuations could affect the dollar value of future cash flows generated in foreign currencies. Accordingly, we use short-term forward contracts to minimize the exposure to foreign currency risk. At September 30, 2021, we had $48 million in notional foreign currency contracts, which were denominated in Indonesian rupiah and Czech koruna. These forwards had a fair value of less than $1 million as of September 30, 2021. At September 30, 2020, we had $54 million in notional foreign currency contracts, which were denominated in Canadian dollar, Indonesian rupiah and Czech koruna. These forwards had a fair value of less than $1 million as of September 30, 2020.

In certain situations where we have forecasted purchases under a long-term commitment or forecasted sales denominated in a foreign currency we may enter into appropriate financial instruments in accordance with our risk management policy to hedge future cash flow exposures.

The primary currencies for which we have exchange rate exposure are the Euro, Chinese Yuan, Columbian Peso and Argentine Peso. In fiscal 2021, foreign currency translations in the aggregate increased our business segment EBIT by $10 million, the majority of which affected the results of the Performance Chemicals segment. In fiscal 2020, foreign currency translations in the aggregate did not have a material impact on our business segment EBIT. We recognized a net foreign exchange loss of $6 million in Other income (expense) in fiscal 2021 from the revaluation of monetary assets and liabilities from transactional currencies to functional currency, largely attributable to changes in the value of the Argentine Peso and to a lesser extent Czech Koruna and Mexican Peso. In fiscal 2020, we recognized a net foreign exchange loss of $6 million in Other income (expense) from the revaluation of monetary assets and liabilities from transactional currencies to functional currency, largely attributable to changes in the value of the Argentine Peso, Brazilian Real, Czech Koruna and Indonesian Rupiah, partially offset by favorable movements in the Colombian Peso during fiscal 2020.

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

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CABOT CORPORATION
CONSOLIDATED STATEMENTS OF OPERATIONS

	Years Ended September 30		
	2021	2020	2019
	(In millions, except per share amounts)		
Net sales and other operating revenues	$ 3,409	$ 2,614	$ 3,337
Cost of sales	2,610	2,114	2,652
Gross profit	799	500	685
Selling and administrative expenses	289	292	290
Research and technical expenses	56	57	60
Specialty Fluids loss on sale and asset impairment charge (Note D)	—	1	29
Marshall Mine loss on sale and asset impairment charge (Note D)	—	129	—
Income (loss) from operations	454	21	306
Interest and dividend income	8	8	9
Interest expense	(49)	(53)	(59)
Other income (expense)	(7)	(9)	(1)
Income (loss) from continuing operations before income taxes and equity in earnings of affiliated companies	406	(33)	255
(Provision) benefit for income taxes	(123)	(191)	(70)
Equity in earnings of affiliated companies, net of tax	3	3	1
Net income (loss)	286	(221)	186
Net income (loss) attributable to noncontrolling interests, net of tax of $10, $4 and $6	36	17	29
Net income (loss) attributable to Cabot Corporation	$ 250	$ (238)	$ 157
Weighted-average common shares outstanding:			
Basic	56.7	56.6	58.7
Diluted	56.8	56.6	58.8
Earnings (loss) per common share:			
Basic	$ 4.35	$ (4.21)	$ 2.64
Diluted	$ 4.34	$ (4.21)	$ 2.63

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

CABOT CORPORATION
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

	Years Ended September 30		
	2021	2020	2019
		(In millions)	
Net income (loss)	$ 286	$ (221)	$ 186
Other comprehensive income (loss), net of tax			
Foreign currency translation adjustment, net of tax	52	42	(69)
Derivatives: net investment hedges			
(Gains) losses reclassified to interest expense, net of tax	(5)	(5)	(4)
(Gains) losses excluded from effectiveness testing and amortized to interest expense, net of tax	2	2	1
Pension and other postretirement benefit liability adjustments, net of tax	20	9	(5)
Specialty Fluids divestiture	—	—	(3)
Other comprehensive income (loss), net of tax of $8, $1 and $2	69	48	(80)
Comprehensive income (loss)	355	(173)	106
Net income (loss) attributable to noncontrolling interests, net of tax	36	17	29
Foreign currency translation adjustment attributable to noncontrolling interests, net of tax	7	5	(6)
Comprehensive income (loss) attributable to noncontrolling interests	43	22	23
Comprehensive income (loss) attributable to Cabot Corporation	$ 312	$ (195)	$ 83

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

CABOT CORPORATION
CONSOLIDATED BALANCE SHEETS
ASSETS

	September 30 2021	September 30 2020
	(In millions, except share and per share amounts)	
Current assets:		
Cash and cash equivalents	$ 168	$ 151
Accounts and notes receivable, net of reserve for doubtful accounts of $4 and $2	645	418
Inventories	523	359
Prepaid expenses and other current assets	89	50
Total current assets	1,425	978
Property, plant and equipment	3,885	3,686
Accumulated depreciation	(2,509)	(2,372)
Net property, plant and equipment	1,376	1,314
Goodwill	140	134
Equity affiliates	40	39
Intangible assets, net	100	103
Deferred income taxes	53	53
Other assets	172	160
Total assets	$ 3,306	$ 2,781

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

CABOT CORPORATION
CONSOLIDATED BALANCE SHEETS
LIABILITIES AND STOCKHOLDERS' EQUITY

	September 30	
	2021	2020
	(In millions, except share and per share amounts)	
Current liabilities:		
Short-term borrowings	$ 72	$ 14
Accounts payable and accrued liabilities	667	488
Income taxes payable	35	20
Current portion of long-term debt	373	7
Total current liabilities	1,147	529
Long-term debt	717	1,094
Deferred income taxes	73	58
Other liabilities	279	286
Commitments and contingencies (Note T)		
Stockholders' equity:		
Preferred stock:		
Authorized: 2,000,000 shares of $1 par value, Issued and Outstanding: None and none	—	—
Common stock:		
Authorized: 200,000,000 shares of $1 par value, Issued: 56,870,237 and 56,616,030 shares, Outstanding: 56,726,818 and 56,466,638 shares	57	57
Less cost of 143,419 and 149,392 shares of common treasury stock	(4)	(4)
Additional paid-in capital	24	—
Retained earnings	1,159	989
Accumulated other comprehensive income (loss)	(289)	(351)
Total Cabot Corporation stockholders' equity	947	691
Noncontrolling interests	143	123
Total stockholders' equity	1,090	814
Total liabilities and stockholders' equity	$ 3,306	$ 2,781

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

CABOT CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS

	Years Ended September 30		
	2021	2020	2019
		(In millions)	
Cash Flows from Operating Activities:			
Net income (loss)	$ 286	$ (221)	$ 186
Adjustments to reconcile net income (loss) to cash provided by operating activities:			
Depreciation and amortization	160	158	148
Marshall Mine loss on sale and asset impairment charge	—	129	—
Specialty Fluids loss on sale and asset impairment charge	—	—	29
Impairment of investment in equity affiliate	—	—	11
Deferred tax provision (benefit)	9	130	(27)
Employee benefit plan settlement	5	4	7
Equity in net income of affiliated companies	(3)	(3)	(1)
Non-cash compensation	21	9	11
Other non-cash (income) expense	21	8	(3)
Cash dividends received from equity affiliates	2	1	2
Changes in assets and liabilities:			
Accounts and notes receivable	(215)	126	73
Inventories	(174)	114	27
Prepaid expenses and other current assets	(37)	(7)	18
Accounts payable and accrued liabilities	167	(55)	(75)
Income taxes payable	14	(5)	(6)
Other liabilities	1	(11)	(37)
Cash provided by operating activities	257	377	363
Cash Flows from Investing Activities:			
Additions to property, plant and equipment	(195)	(200)	(224)
Proceeds from sale of business	—	—	135
Cash paid for acquisition of business, net of cash acquired of $—, $1 and $—	—	(92)	(3)
Other	9	4	(2)
Cash used in investing activities	(186)	(288)	(94)
Cash Flows from Financing Activities:			
Borrowings under financing arrangements	—	—	29
Repayments under financing arrangements	—	—	(29)
Proceeds from (repayments of) issuance of commercial paper, net	58	(19)	(216)
Proceeds from long-term debt, net of issuance costs	200	444	352
Repayments of long-term debt	(222)	(410)	(75)
Repayments of redeemable preferred stock	—	—	(25)
Purchases of common stock	(3)	(44)	(173)
Proceeds from sales of common stock	6	3	4
Cash dividends paid to noncontrolling interests	(19)	(26)	(23)
Cash dividends paid to common stockholders	(80)	(80)	(80)
Cash used in financing activities	(60)	(132)	(236)
Effects of exchange rate changes on cash	8	25	(39)
Increase (decrease) in cash, cash equivalents and restricted cash	19	(18)	(6)
Cash, cash equivalents and restricted cash at beginning of year	151	169	175
Cash, cash equivalents and restricted cash at end of year	$ 170	$ 151	$ 169
The following table presents the Company's cash, cash equivalents and restricted cash by category within the Consolidated Balance Sheets:			
Cash and cash equivalents	$ 168	$ 151	$ 169
Restricted cash classified within Prepaid expenses and other current assets	2	—	—
Cash, cash equivalents and restricted cash	$ 170	$ 151	$ 169
Non-cash investing activities and supplemental cash flow information:			
Additions to property, plant and equipment included in Accounts payable and accrued liabilities	$ 41	$ 29	$ 23
Income taxes paid	$ 93	$ 71	$ 99
Interest paid	$ 41	$ 48	$ 47

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

CABOT CORPORATION
CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY
(In millions, except shares in thousands and per share amounts)

	Common Stock, Net of Treasury Stock		Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total Cabot Corporation Stockholders' Equity	Noncontrolling Interests	Total Stockholders' Equity
	Shares	Cost						
Balance at September 30, 2018	60,367	$ 54	$ —	$ 1,417	$ (317)	$ 1,154	$ 125	$ 1,279
Net income (loss)				157		157	29	186
Total other comprehensive income (loss)					(74)	(74)	(6)	(80)
Acquisition of noncontrolling interest			(1)			(1)	1	—
Cash dividends declared to noncontrolling interests						—	(13)	(13)
Cash dividends paid to common stockholders, $1.36 per share				(80)		(80)		(80)
Issuance of stock under equity compensation plans	483	2	2			4		4
Amortization of share-based compensation			11			11		11
Purchase and retirement of common stock	(3,769)	(4)	(12)	(157)		(173)		(173)
Balance at September 30, 2019	57,081	52	—	1,337	(391)	998	136	1,134
Net income (loss)				(238)		(238)	17	(221)
Adoption of accounting standards				3	(3)	—		—
Total other comprehensive income (loss)					43	43	5	48
Cash dividends declared to noncontrolling interests						—	(35)	(35)
Cash dividends paid to common stockholders, $1.40 per share				(80)		(80)		(80)
Issuance of stock under equity compensation plans	330	2	1			3		3
Amortization of share-based compensation			9			9		9
Purchase and retirement of common stock	(944)	(1)	(10)	(33)		(44)		(44)
Balance at September 30, 2020	56,467	53	—	989	(351)	691	123	814
Net income (loss)				250		250	36	286
Total other comprehensive income (loss)					62	62	7	69
Cash dividends declared to noncontrolling interests						—	(23)	(23)
Cash dividends paid to common stockholders, $1.40 per share				(80)		(80)		(80)
Issuance of stock under equity compensation plans	317	—	6			6		6
Amortization of share-based compensation			21			21		21
Purchase and retirement of common stock	(57)	—	(3)			(3)		(3)
Balance at September 30, 2021	56,727	$ 53	24	$ 1,159	$ (289)	$ 947	$ 143	$ 1,090

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

Notes to the Consolidated Financial Statements

Note A. Significant Accounting Policies

The consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States ("U.S. GAAP"). The significant accounting policies of Cabot Corporation ("Cabot" or "the Company") are described below.

Unless otherwise indicated, all disclosures and amounts in the Notes to the Consolidated Financial Statements relate to the Company's continuing operations.

Principles of Consolidation

The consolidated financial statements include the accounts of Cabot and its wholly-owned subsidiaries and majority-owned and controlled U.S. and non-U.S. subsidiaries. Additionally, Cabot considers consolidation of entities over which control is achieved through means other than voting rights, of which there were none in the periods presented. Intercompany transactions have been eliminated in consolidation.

Cash and Cash Equivalents

Cash equivalents include all highly liquid investments with a maturity of three months or less at date of acquisition. Cabot continually assesses the liquidity of cash equivalents and, as of September 30, 2021, has determined that they are readily convertible to cash.

Inventories

Inventories are stated at the lower of cost or net realizable value. The cost of inventories is determined using the first-in, first-out method.

Cabot periodically reviews inventory for both potential obsolescence and potential declines in anticipated selling prices. In this review, the Company makes assumptions about the future demand for and market value of the inventory, and based on these assumptions estimates the amount of any obsolete, unmarketable, slow moving, or overvalued inventory. Cabot writes down the value of these inventories by an amount equal to the difference between the cost of the inventory and its estimated net realizable value.

Investments

The Company has investments in equity affiliates and marketable securities. As circumstances warrant, all investments are subject to periodic impairment reviews. Unless consolidation is required, investments in equity affiliates, where Cabot generally owns between 20% and 50% of the affiliate, are accounted for using the equity method. Cabot records its share of the equity affiliate's results of operations based on its percentage of ownership of the affiliate. Dividends declared from equity affiliates are a return on investment and are recorded as a reduction to the equity investment value. In fiscal 2019, the Company recorded an impairment charge of $11 million related to its Venezuelan equity investment, which is included in Other income (expense) within the Consolidated Statements of Operations. At September 30, 2021 and 2020, Cabot had equity affiliate investments of $40 million and $39 million, respectively. Dividends declared and received from these investments were $5 million, $3 million and $4 million in fiscal 2021, 2020 and 2019, respectively.

Intangible Assets and Goodwill Impairment

The Company records tangible and intangible assets acquired and liabilities assumed in business combinations under the acquisition method of accounting. Amounts paid for an acquisition are allocated to the assets acquired and liabilities assumed based on their fair values at the date of acquisition. The Company uses assumptions and estimates in determining the fair value of assets acquired and liabilities assumed in a business combination. The determination of the fair value of intangible assets requires the use of significant judgment with regard to assumptions used in the valuation model. The Company estimates the fair value of identifiable acquisition-related intangible assets principally based on projections of cash flows that will arise from these assets. The projected cash flows are discounted to determine the fair value and useful lives of the assets at the dates of acquisition.

Definite-lived intangible assets, which are comprised of trademarks, customer relationships and developed technologies, are amortized over their estimated useful lives and are reviewed for impairment when indication of potential impairment exists, such as a significant reduction in cash flows associated with the assets.

Goodwill is comprised of the purchase price of business acquisitions in excess of the fair value assigned to the net tangible and identifiable intangible assets acquired. Goodwill is not amortized and is subject to impairment testing annually, or when events or changes in the business environment indicate that the carrying value of the reporting unit may exceed its fair value.

A reporting unit, for the purpose of the impairment test, is at or below the operating segment level, and constitutes a business for which discrete financial information is available and regularly reviewed by segment management. Reinforcement Materials, and the fumed metal oxides, specialty compounds, and specialty carbons product lines within Performance Chemicals, which are considered separate reporting units, carry the Company's goodwill balances as of September 30, 2021.

For the purpose of the goodwill impairment test, the Company first assesses qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If an initial qualitative assessment identifies that it is more likely than not that the carrying value of a reporting unit exceeds its estimated fair value, an additional quantitative evaluation is performed. Alternatively, the Company may elect to proceed directly to the quantitative goodwill impairment test. If based on the quantitative evaluation the fair value of the reporting unit is less than its carrying amount, a goodwill impairment loss would result. The goodwill impairment loss would be the amount by which the carrying value of the reporting unit, including goodwill, exceeds its fair value, limited to the total amount of goodwill allocated to that reporting unit. The fair value of a reporting unit is based on discounted estimated future cash flows. The assumptions used to estimate fair value include management's best estimates of future growth rates, operating cash flows, capital expenditures and discount rates over an estimate of the remaining operating period at the reporting unit level. The fair value is also benchmarked against the value calculated from a market approach using the guideline public company method. Based on the Company's most recent annual goodwill impairment test performed as of August 31, 2021, the fair values of the Reinforcement Materials, fumed metal oxides, specialty compounds, and specialty carbons reporting units were substantially in excess of their carrying values.

Long-lived Assets Impairment

The Company's long-lived assets primarily include property, plant and equipment, intangible assets, and long-term investments. The carrying values of long-lived assets are reviewed for impairment whenever events or changes in business circumstances indicate that the carrying amount of an asset may not be recoverable.

To test for impairment of assets, the Company generally uses a probability-weighted estimate of the future undiscounted net cash flows of the assets over their remaining lives to determine if the value of the asset is recoverable. Long-lived assets are grouped with other assets and liabilities at the lowest level for which independent identifiable cash flows are determinable.

An asset impairment is recognized when the carrying value of the asset is not recoverable based on the analysis described above, in which case the asset is written down to its fair value. If the asset does not have a readily determinable market value, a discounted cash flow model may be used to determine the fair value of the asset. In circumstances when an asset does not have separate identifiable cash flows, an impairment charge is recorded when the Company no longer intends to use the asset.

Property, Plant and Equipment

Property, plant and equipment are recorded at cost. Depreciation of property, plant and equipment is calculated using the straight-line method over the estimated useful lives of the related assets. The depreciable lives for buildings, machinery and equipment, and other fixed assets are generally between twenty and twenty-five years, ten and twenty-five years, and three and twenty-five years, respectively. The cost and accumulated depreciation for property, plant and equipment sold, retired, or otherwise disposed of are removed from the Consolidated Balance Sheets and resulting gains or losses are included in earnings in the Consolidated Statements of Operations. Expenditures for repairs and maintenance are charged to expenses as incurred. Expenditures for major renewals and betterments, which significantly extend the useful lives of existing plant and equipment, are capitalized and depreciated.

Cabot capitalizes interest costs when they are part of the cost of acquiring and constructing certain assets that require a period of time to prepare for their intended use. During fiscal 2021, 2020 and 2019, Cabot capitalized $1 million, $2 million and $4 million of interest costs, respectively. These amounts are amortized over the lives of the related assets when they are placed in service.

Asset Retirement Obligations

Cabot estimates incremental costs for special handling, removal and disposal of materials that may or will give rise to conditional asset retirement obligations ("ARO") and then discounts the expected costs back to the current year using a credit adjusted risk free rate. Cabot recognizes ARO liabilities and costs when the timing and/or settlement can be reasonably estimated. In certain instances, Cabot has not recorded a reserve for AROs because the timing of disposal of the underlying asset is unknown. The ARO reserves were $19 million and $18 million at September 30, 2021 and 2020, respectively, and are included in Accounts payable and accrued liabilities and Other liabilities on the Consolidated Balance Sheets.

Foreign Currency Translation

The functional currency of the majority of Cabot's foreign subsidiaries is the local currency in which the subsidiary operates. Assets and liabilities of foreign subsidiaries are translated into U.S. dollars at exchange rates in effect at the balance sheet dates. Income and expense items are translated at average monthly exchange rates during the year. The functional currency of Cabot's foreign subsidiaries that operate in a highly inflationary economy is the U.S. dollar. Cabot's operations in highly inflationary economies are not material.

Unrealized currency translation adjustments ("CTA") are included as a separate component of Accumulated other comprehensive income (loss) ("AOCI") within stockholders' equity. Realized and unrealized foreign currency gains and losses arising from transactions denominated in currencies other than the subsidiary's functional currency are reflected in earnings with the exception of (i) intercompany transactions considered to be of a long-term investment nature; (ii) income taxes upon future repatriation of unremitted earnings from non-U.S. subsidiaries that are not indefinitely reinvested; and (iii) foreign currency borrowings designated as net investment hedges. Gains or losses arising from these transactions are included within the CTA component of Other comprehensive income (loss). In both fiscal 2021 and 2020, net foreign currency transaction loss of $6 million is included in Other income (expense) in the Consolidated Statements of Operations, and in fiscal 2019, net foreign currency gain of less than $1 million is included in Other income (expense) in the Consolidated Statements of Operations.

Share Repurchases

Periodically, Cabot repurchases shares of the Company's common stock in the open market or in privately negotiated transactions under the authorization approved by the Board of Directors as discussed in Item 5 under the heading "Issuer Purchases of Equity Securities". The Company retires the repurchased shares and records the excess of the purchase price over par value to additional paid-in capital ("APIC") until such amount is reduced to zero and then charges the remainder against retained earnings.

Financial Instruments

Cabot's financial instruments consist primarily of cash and cash equivalents, accounts and notes receivable, investments, accounts payable and accrued liabilities, short-term and long-term debt, and derivative instruments. The carrying values of Cabot's financial instruments approximate fair value with the exception of fixed rate long-term debt, which is recorded at amortized cost. The fair values of the Company's financial instruments are based on quoted market prices, if such prices are available. In situations where quoted market prices are not available, the Company relies on valuation models to derive fair value. Such valuation takes into account the ability of the financial counterparty to perform and the Company's own credit risk.

Cabot uses derivative financial instruments primarily for purposes of hedging the exposures to fluctuations in foreign currency exchange rates, which exist as part of its on-going business operations. Cabot does not enter into derivative contracts for speculative purposes, nor does it hold or issue any derivative contracts for trading purposes. All derivatives are recognized on the Consolidated Balance Sheets at fair value. Where Cabot has a legal right to offset derivative settlements under a master netting agreement with a counterparty, derivatives with that counterparty are presented on a net basis. The changes in the fair value of derivatives are recorded in either earnings or AOCI, depending on whether or not the instrument is designated as part of a hedge transaction and, if designated as part of a hedge transaction, the type of hedge transaction. The gains or losses on derivative instruments reported in AOCI are reclassified to earnings in the period in which earnings are affected by the underlying hedged item. The ineffective portion of all hedges is recognized in earnings during the period in which the ineffectiveness occurs.

In accordance with Cabot's risk management strategy, the Company may enter into certain derivative instruments that may not be designated as hedges for hedge accounting purposes. Although these derivatives are not designated as hedges, the Company believes that such instruments are closely correlated with the underlying exposure, thus managing the associated risk. The Company records in earnings the gains or losses from changes in the fair value of derivative instruments that are not designated as hedges. Cash movements associated with these instruments are presented in the Consolidated Statements of Cash Flows as Cash Flows from Operating Activities because the derivatives are designed to mitigate risk to the Company's cash flow from operations.

Revenue Recognition

Cabot recognizes revenue when its customers obtain control of promised goods or services. The revenue recognized is the amount of consideration which the Company expects to receive in exchange for those goods or services. The Company's contracts with customers are generally for products only and do not include other performance obligations. Generally, Cabot considers purchase orders, which in some cases are governed by master supply agreements, to be contracts with customers. The transaction price as specified on the purchase order or sales contract is considered the standalone selling price for each distinct product. To determine the transaction price at the time when revenue is recognized, the Company evaluates whether the price is subject to adjustments, such as for returns, discounts or volume rebates, which are stated in the customer contract, to determine the net consideration to which the Company expects to be entitled. Revenue from product sales is recognized based on a point in time model when control of the product is transferred to the customer, which typically occurs upon shipment or delivery of the product to the customer and title, risk and rewards of ownership have passed to the customer. The Company has an immaterial amount of revenue that is recognized over time. Payment terms typically range from zero to ninety days.

Shipping and handling activities that occur after the transfer of control to the customer are billed to customers and are recorded as sales revenue, as the Company considers these to be fulfillment costs. Shipping and handling costs are expensed in the period incurred and included in Cost of sales within the Consolidated Statement of Operations. Taxes collected on sales to customers are excluded from the transaction price.

The Company generally provides a warranty that its products will substantially conform to the identified specifications. The Company's liability typically is limited to either a credit equal to the purchase price or replacement of the non-conforming product. Returns under warranty have historically been immaterial.

The Company does not have contract assets or liabilities that are material.

When the period of time between the transfer of control of the goods and the time the customer pays for the goods is one year or less, the Company does not consider there to be a significant financing component associated with the contract.

Cost of Sales

Cost of sales consists of the cost of raw and packaging materials, direct manufacturing costs, depreciation, internal transfer costs, inspection costs, inbound and outbound freight and shipping and handling costs, plant purchasing and receiving costs and other overhead expenses necessary to manufacture the products.

Accounts and Notes Receivable

Trade receivables are recorded at the invoiced amount and generally do not bear interest. Trade receivables in China may at certain times be settled with the receipt of bank issued non-interest bearing notes. These notes totaled 32 million Chinese Renminbi ("RMB") ($5 million) and 34 million RMB ($5 million) as of September 30, 2021 and 2020, respectively, and are included in Accounts and notes receivable on the Company's Consolidated Balance Sheets. Cabot periodically sells a portion of these bank notes and other customer receivables at a discount and such sales are accounted for as asset sales. The Company does not have any continuing involvement with these notes or other customer receivables after the sale. The difference between the proceeds from the sale and the carrying value of these assets is recognized as a loss on the sale of receivables and is included in Other income (expense) in the accompanying Consolidated Statements of Operations. During both fiscal 2021 and 2020, the Company recorded charges of $2 million for the sale of these assets. During fiscal 2019, the Company recorded a charge of $3 million for the sale of these assets.

Cabot maintains allowances for doubtful accounts based on an assessment of the collectability of specific customer accounts, the aging of accounts receivable and other economic information on both a historical and prospective basis. Customer account balances are charged against the allowance when it is probable the receivable will not be recovered. There were no material changes in the allowance for any of the years presented. There is no material off-balance sheet credit exposure related to customer receivable balances.

Stock-based Compensation

Cabot recognizes compensation expense for stock-based awards granted to employees using the fair value method. Under the fair value recognition provisions, stock-based compensation cost is measured at the grant date based on the fair value of the award, and is recognized as expense over the service period, which generally represents the vesting period, and includes an estimate of what level of performance the Company will achieve for Cabot's performance-based stock awards. Cabot calculates the fair value of its stock options using the Black-Scholes option pricing model. The fair value of restricted stock units is determined using the closing price of Cabot stock on the day of the grant. The Company recognizes forfeitures as they occur.

Selling and Administrative Expenses

Selling and administrative expenses consist of salaries and fringe benefits of sales and office personnel, general office expenses and other expenses not directly related to manufacturing operations.

Research and Technical Expenses

Research and technical expenses include salaries, equipment and material expenditures, and contractor fees and are expensed as incurred.

Pensions and Other Postretirement Benefits

The Company recognizes the funded status of defined benefit pension and other postretirement benefit plans as an asset or liability. This amount is defined as the difference between the fair value of plan assets and the benefit obligation. Pension and post-retirement benefit costs other than service cost are included in Other income (expense) in the Consolidated Statement of Operations. Service cost is included with other employee compensation costs within Cost of sales, Selling and administrative expenses, or Research and technical expenses. The Company is required to recognize as a component of Other comprehensive income (loss), net of tax, the actuarial gains and losses and prior service costs and credits that arise but were not previously required to be recognized as components of net periodic benefit cost. Other comprehensive income (loss) is adjusted as these amounts are later recognized in income as components of net periodic benefit cost.

Accumulated Other Comprehensive Income (Loss)

AOCI, which is included as a component of stockholders' equity, includes unrealized gains or losses on derivative instruments, currency translation adjustments in foreign subsidiaries and pension and post-retirement related adjustments.

Income Taxes

Deferred income taxes are determined based on the estimated future tax effects of differences between financial statement carrying amounts and the tax bases of existing assets and liabilities. Deferred tax assets are recognized to the extent that realization of those assets is considered to be more likely than not. A valuation allowance is established for deferred taxes when it is more likely than not that all or a portion of the deferred tax assets will not be realized. Provisions are made for the U.S. income tax liability and additional non-U.S. taxes on the undistributed earnings of non-U.S. subsidiaries, except for amounts Cabot has designated to be indefinitely reinvested.

Cabot records benefits for uncertain tax positions based on an assessment of whether the position is more likely than not to be sustained by the taxing authorities. If this threshold is not met, no tax benefit of the uncertain tax position is recognized. If the threshold is met, the tax benefit that is recognized is the largest amount that is greater than 50% likely of being realized upon ultimate settlement. This analysis presumes the taxing authorities' full knowledge of the positions taken and all relevant facts, but does not consider the time value of money. The Company also accrues for interest and penalties on its uncertain tax positions and includes such charges in its income tax provision in the Consolidated Statements of Operations.

Contingencies

Cabot accrues costs related to contingencies when it is probable that a liability has been incurred and the amount can be reasonably estimated. Contingencies could arise from litigation, environmental remediation or contractual arrangements. When a single liability amount cannot be reasonably estimated, but a range can be reasonably estimated, Cabot accrues the amount that reflects the best estimate within that range or the low end of the range if no estimate within the range would be considered more likely than any other estimate. The amount accrued is determined through the evaluation of various information, which could include claims, settlement offers, demands by government agencies, estimates performed by independent third parties, identification of other responsible parties and an assessment of their ability to contribute, and our prior experience. Cabot does not reduce its estimated liability for possible recoveries from insurance carriers. Proceeds from insurance carriers are recorded when realized by either the receipt of cash or a contractual agreement.

Use of Estimates

The preparation of consolidated financial statements in conformity with U.S. GAAP requires management to make certain estimates and assumptions that affect the reported amount of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reported period. Actual results could differ from those estimates.

Note B. Recent Accounting Pronouncements

Recently Adopted Accounting Standards

In June 2016, the FASB issued a new standard on measurement of credit losses. The standard introduces a new "expected loss" impairment model that applies to most financial assets measured at amortized cost and certain other instruments, including trade and other receivables and other financial assets. Entities are required to estimate expected credit losses over the life of financial assets and record an allowance against the assets' amortized cost basis to present them at the amount expected to be collected. The new standard is effective for fiscal years beginning after December 15, 2019 and early adoption is permitted. The Company adopted this standard on October 1, 2020. The adoption of this standard did not materially impact the Company's consolidated financial statements.

In December 2019, the FASB issued a new standard Simplifying the Accounting for Income Taxes. The new guidance simplifies the accounting for income taxes by removing several exceptions in the current standard and adding guidance to reduce complexity in certain areas. The new standard is effective for fiscal years beginning after December 15, 2020 and early adoption is permitted. The Company adopted this standard on October 1, 2021. The adoption of this standard did not materially impact the Company's consolidated financial statements.

Recently Issued Accounting Pronouncements

In March 2020, the FASB issued a new standard on Reference Rate Reform, which provides temporary optional expedients and exceptions to the existing guidance on contract modifications and hedge accounting to ease the financial reporting burdens related to the expected market transition from the London Interbank Offered Rate ("LIBOR") and other interbank offered rates to alternative reference rates. The standard was effective upon issuance and may generally be applied through December 31, 2022 to any new or amended contracts, hedging relationships, and other transactions that reference LIBOR. The Company is currently evaluating the timing of adoption and the impact of the adoption of this standard on its consolidated financial statements.

Note C. Acquisitions

Shenzhen Sanshun Nano New Materials Co., Ltd

On April 1, 2020, the Company purchased Shenzhen Sanshun Nano New Materials Co., Ltd ("SUSN"), a leading carbon nanotube producer, for a purchase price of $100 million, consisting of: (i) cash consideration of $84 million, net of $1 million acquired (ii) contingent consideration of $3 million to be paid over the two-year period ending March 31, 2022 upon the satisfaction of certain milestones, and (iii) the assumed debt of $13 million. The debt the Company assumed in the transaction was repaid in June 2020. The operating results of SUSN were included in the results of the Company's Performance Chemicals segment beginning in the third quarter of fiscal 2020, and revenue totaled $12 million in the second half of fiscal 2020.

The final allocation of the purchase price set forth below was based on estimates of the fair value of assets acquired and liabilities assumed as of April 1, 2020.

		(In millions)
Assets		
Cash	$	1
Accounts Receivable		8
Inventories		4
Prepaid expenses and other current assets		2
Property, plant and equipment		38
Intangible assets		15
Goodwill		45
Deferred tax asset		1
Other assets		2
Total assets acquired		116
Liabilities		
Accounts payable and accrued liabilities		(12)
Long-term debt		(13)
Other liabilities		(6)
Total liabilities assumed		(31)
Cash consideration paid	$	85

As part of the purchase price allocation, the Company determined the separately identifiable intangible assets are comprised of developed technologies of $9 million, which are amortized over ten years, customer relationships of $4 million, which are amortized over twenty years, and trademarks of $2 million, which are amortized over ten years. The excess of the purchase price over the fair value of the tangible net assets and intangible assets acquired was recorded as goodwill. The goodwill recognized is attributable to the growth and operating synergies that the Company expects to realize from this acquisition. Goodwill generated from the acquisition is not deductible for tax purposes.

Note D. Divestitures

Sale of Specialty Fluids Business

In June 2019, the Company completed the sale of its Specialty Fluids business, an operating segment of the Company, to Sinomine (Hong Kong) Rare Metals Resources Co. Limited, a wholly owned subsidiary of Sinomine Resource Group Co., Ltd. for total proceeds of $133 million. The Company recognized a pre-tax loss on the sale of the Specialty Fluids business of $9 million in fiscal 2019 and a $20 million impairment charge during the second quarter of fiscal 2019. The sale was subject to customary post-closing adjustments, which were finalized during the second quarter of fiscal 2020 and resulted in an additional pre-tax loss on sale of $1 million. The sale of the Specialty Fluids business did not meet the criteria to be reported as a discontinued operation as it did not constitute a significant strategic business shift for the Company, and had no major effect on operations.

Sale of Marshall Mine

On September 30, 2020, the Company entered into an agreement to sell its lignite mine located in Marshall, Texas to ADA Carbon Solutions, LLC ("ADACS") for a nominal amount. As part of the transaction, the Company agreed to fund a portion of the costs ADACS expects to incur to close the mine and included $9 million for these costs in Accounts payable and accrued liabilities and Other liabilities on the Consolidated Balance Sheets. The majority of these costs are to be paid within the next four years or at the time of a change of control of the business. At the same time, Cabot idled its activation kilns at its manufacturing facility in Marshall, Texas. The Company continues certain operational activities including washing of activated carbon, as well as packaging and warehousing operations at its Marshall facility. In fiscal 2020, the Company recognized a pre-tax loss on the sale of the mine of $67 million and an impairment charge to certain idled fixed assets of $62 million.

In conjunction with the sale, the Company entered into a long-term supply agreement with ADACS, a producer of lignite-based activated carbon. Under the terms of this agreement, ADACS manufactures and supplies the Purification Solutions business's proprietary portfolio of lignite-based activated carbon products exclusively to the Company.

Note E. Inventories

Inventories, net of obsolete, unmarketable and slow moving reserves, are as follows:

	September 30	
	2021	2020
	(In millions)	
Raw materials	$ 168	$ 82
Finished goods	300	225
Other[1]	55	52
Total	$ 523	$ 359

[1] Other inventory is comprised of certain spare parts and supplies.

At September 30, 2021 and 2020, total inventory reserves were $20 million and $28 million, respectively.

Note F. Property, Plant and Equipment

Property, plant and equipment consists of the following:

	September 30	
	2021	2020
	(In millions)	
Land and land improvements	$ 114	$ 111
Buildings	575	552
Machinery and equipment	2,765	2,589
Other	241	244
Construction in progress	190	190
Total property, plant and equipment	3,885	3,686
Less: Accumulated depreciation	(2,509)	(2,372)
Net property, plant and equipment	$ 1,376	$ 1,314

Depreciation expense for fiscal 2021, 2020, and 2019 was $152 million, $151 million and $142 million, respectively.

Note G. Goodwill and Intangible Assets

The carrying amount of goodwill attributable to each reportable segment with goodwill balances and the changes in those balances during the period ended September 30, 2021 are as follows:

	Reinforcement Materials	Performance Chemicals	Total [(1)]
		(In millions)	
Balance at September 30, 2020	$ 46	$ 88	134
Foreign currency impact	2	4	6
Balance at September 30, 2021	$ 48	$ 92	$ 140

(1) The balance as of September 30, 2020 and September 30, 2021 includes $444 million of accumulated impairment losses associated with the goodwill of Purification Solutions segment. There were no accumulated impairment losses associated with the goodwill of the Reinforcement Materials or Performance Chemicals segments.

The following table provides information regarding the Company's intangible assets with finite lives:

	September 30, 2021			September 30, 2020		
	Gross Carrying Value	Accumulated Amortization	Net Intangible Assets	Gross Carrying Value	Accumulated Amortization	Net Intangible Assets
			(In millions)			
Developed technologies	$ 62	$ (12)	$ 50	$ 60	$ (8)	$ 52
Trademarks	11	(1)	10	11	(1)	10
Customer relationships	60	(20)	40	56	(15)	41
Total intangible assets	$ 133	$ (33)	$ 100	$ 127	$ (24)	$ 103

Intangible assets are amortized over their estimated useful lives, which range between ten and twenty-five years, with a weighted average amortization period of 17 years. Amortization expense for fiscal 2021, 2020 and 2019 was $8 million, $7 million and $6 million, respectively, and is included in Cost of sales, Selling and administrative expenses, and Research and technical expenses in the Consolidated Statements of Operations. Total amortization expense is estimated to be approximately $8 million each year for the next five fiscal years.

Note H. Accounts Payable, Accrued Liabilities and Other Liabilities

Accounts payable and accrued liabilities included in current liabilities consist of the following:

	September 30	
	2021	2020
	(In millions)	
Accounts payable	$ 480	$ 316
Accrued employee compensation	75	46
Accrued legal expenses	12	38
Other accrued liabilities	100	88
Total	$ 667	$ 488

Other long-term liabilities consist of the following:

	September 30	
	2021	2020
	(In millions)	
Employee benefit plan liabilities	$ 80	$ 92
Operating lease liabilities	84	89
Other accrued liabilities	115	105
Total	$ 279	$ 286

Note I. Debt and Other Obligations

Long-term Obligations

The Company's long-term obligations, the fiscal year in which they mature and their respective interest rates are summarized below:

	September 30	
	2021	2020
	(In millions)	
Variable Rate Debt:		
Revolving Credit Facility, expires fiscal 2026	$ —	$ —
Revolving Credit Facility - Euro, expires fiscal 2024	134	148
Total variable rate debt	134	148
Fixed Rate Debt:		
3.7% Notes due fiscal 2022	350	350
3.4% Notes due fiscal 2026	250	250
4.0% Notes due fiscal 2029	300	300
Medium Term Notes:		
Notes due fiscal 2022, 8.34% — 8.47%	15	15
Notes due fiscal 2028, 6.57% — 7.28%	8	8
Total Medium Term Notes	23	23
Chinese Renminbi Debt, due fiscal 2022, 4.35%	4	4
Total fixed rate debt	927	927
Finance lease obligations (Note S)	33	31
Unamortized debt issuance costs and debt discount	(4)	(5)
Total debt	1,090	1,101
Less current portion of long-term debt	(373)	(7)
Total long-term debt	$ 717	$ 1,094

Revolving Credit Facility, expiring fiscal 2026— In August 2021, the Company entered into a revolving credit agreement (the "U.S. Credit Agreement") with a loan commitment not to exceed $1 billion. The amount available for borrowing under the U.S. Credit Agreement was $929 million as of September 30, 2021, and the weighted average interest rate on the outstanding balance during the year was 1.24%. The U.S. Credit Agreement, which matures on August 6, 2026, subject to two one-year options to extend the maturity, exercisable on or prior to August 6, 2022 and August 6, 2023, supports the Company's commercial paper program. Borrowings may be used for working capital, letters of credit and other general corporate purposes. The U.S. Credit Agreement contains affirmative and negative covenants, the financial debt covenants described below, and annual sustainability performance targets related to the Company's reduction in its nitrogen oxide and sulfur dioxide emissions intensity, the achievement of which may adjust pricing under the U.S. Credit Agreement.

Revolving Credit Facility-Euro, expiring fiscal 2024—In May 2019, several subsidiaries entered into a revolving credit agreement with a loan commitment not to exceed 300 million Euros. The amount available for borrowing under this revolving credit agreement was $216 million as of September 30, 2021, and the weighted average interest rate on the outstanding balance during the year was 1.20%. The revolving credit agreement, which matures on the earlier of (i) May 22, 2024 and (ii) the date of maturity, termination or expiration of the corporate revolving credit facility, may be used for repatriation of earnings of Cabot's foreign subsidiaries to the U.S., the repayment of indebtedness of the Company's foreign subsidiaries owing to the Company or any of its subsidiaries, and for working capital and general corporate purposes. The obligations of the subsidiaries under the revolving credit agreement are guaranteed by the Company. The Company paid debt issuance costs of $1 million upon entering the agreement, which are being amortized over the life of the revolver.

Effective October 19, 2021, the same subsidiaries amended and restated the 2019 revolving credit agreement (the "Euro Credit Agreement") to align with the customary LIBOR replacement language and the financial leverage test covenant recently adopted in the U.S. Credit Agreement. The amount of the loan commitment, maturity date, acceptable use of funds, and guarantee by the Company are unchanged from the prior agreement.

Revolving Credit Facility-Canada, expiring fiscal 2021— During the second quarter of fiscal 2021, the Company's Canadian subsidiary terminated its $100 million unsecured revolving credit agreement, which had a maturity date of September 24, 2021. The Canadian Credit Agreement provided liquidity for working capital and general corporate purposes for certain of Cabot's Canadian subsidiaries. The Company had no borrowings under this agreement during either fiscal 2021 or 2020.

Debt Covenants— As of September 30, 2021, Cabot was in compliance with the financial debt covenants under the Credit Agreements, which, with limited exceptions, generally require the Company to comply on a quarterly basis with a leverage test. The U.S. Credit Agreement requires a leverage ratio of net debt, with the ability to offset such debt by the lesser of (i) unrestricted cash and cash equivalents and (ii) $150 million, to consolidated EBITDA not to exceed 3.50 to 1.00. The Euro Credit Agreement Facility required a leverage ratio of total debt to consolidated EBITDA not to exceed 3.50 to 1.00. Effective October 19, 2021, the Company amended the agreement to reflect a leverage test using net debt, consistent with the U.S. Credit Agreement.

Chinese Renminbi Debt—The Company's consolidated Chinese subsidiaries had $4 million of unsecured long-term debt outstanding with a noncontrolling shareholder of a consolidated subsidiary as of both September 30, 2021 and 2020.

3.7% Notes due fiscal 2022—In July 2012, Cabot issued $350 million in registered notes with a coupon of 3.7% that mature on July 15, 2022. These notes are unsecured and pay interest on January 15 and July 15. The net proceeds of this offering were $347 million after deducting discounts and issuance costs. The discount of less than $1 million was recorded at issuance and is being amortized over the life of the notes. The Company plans to refinance the notes during the first half of calendar 2022.

3.4% Notes due fiscal 2026—In September 2016, Cabot issued $250 million in registered notes with a coupon of 3.4% that mature on September 15, 2026. These notes are unsecured and pay interest on March 15 and September 15. The net proceeds of this offering were $248 million after deducting discounts and issuance costs. The discount of less than $1 million was recorded at issuance and is being amortized over the life of the notes.

4.0% Notes due fiscal 2029—In June 2019, Cabot issued $300 million in registered, unsecured, notes with a coupon of 4.0% that mature on July 1, 2029. Interest is payable under the notes semi-annually on January 1 and July 1 commencing in January 2020. The net proceeds of this offering were $296 million after deducting discounts and issuance costs of $1 million and $3 million, respectively, which were paid at issuance and are being amortized over the life of the notes.

Medium Term Notes—At both September 30, 2021 and 2020, there were $23 million, of unsecured medium term notes outstanding issued to numerous lenders with various fixed interest rates and maturity dates. The weighted average maturity of the total outstanding medium term notes is 3 years with a weighted average interest rate of 7.96%.

Finance Lease obligations—See Note S for a discussion of the Company's leases.

Future Years Payment Schedule

The aggregate principal amounts of long-term debt, excluding finance lease liabilities presented separately in Note S, due in each of the five years from fiscal 2022 through 2026 and thereafter are as follows:

Years Ending September 30	Principal Payments on Long-Term Debt
	(In millions)
2022	$ 369
2023	—
2024	134
2025	—
2026	250
Thereafter	308
Total	$ 1,061

Standby letters of credit—At September 30, 2021, the Company had provided standby letters of credit that were outstanding and not drawn totaling $5 million, which expire through fiscal 2022.

Short-term Borrowings

Commercial Paper—The Company has a commercial paper program and the maximum aggregate balance of commercial paper notes outstanding and the amounts borrowed under the revolving credit facility may not exceed the borrowing capacity of $1 billion under the revolving credit facility. The proceeds from the issuance of the commercial paper have been used for general corporate purposes, which may include working capital, refinancing existing indebtedness, capital expenditures, share repurchases, and acquisitions. The revolving credit facility is available to repay the outstanding commercial paper, if necessary.

There was an outstanding balance of commercial paper of $71 million as of September 30, 2021 with a weighted average interest rate of 0.15% and an outstanding balance of $14 million as of September 30, 2020 with a weighted average interest rate of 0.28%.

Note J. Financial Instruments and Fair Value Measurements

The FASB authoritative guidance on fair value measurements defines fair value, provides a framework for measuring fair value, and requires certain disclosures about fair value measurements. The required disclosures focus on the inputs used to measure fair value. The guidance establishes the following hierarchy for categorizing these inputs:

Level 1 — Quoted market prices in active markets for identical assets or liabilities

Level 2 — Significant other observable inputs (e.g., quoted prices for similar items in active markets, quoted prices for identical or similar items in markets that are not active, inputs other than quoted prices that are observable such as interest rate and yield curves, and market-corroborated inputs)

Level 3 — Significant unobservable inputs

There were no transfers of financial assets or liabilities measured at fair value between Level 1 and Level 2, and there were no Level 3 investments during fiscal 2021 or 2020.

At both September 30, 2021 and 2020, Cabot had derivatives relating to foreign currency risks carried at fair value. At September 30, 2021, the fair value of these derivatives was a net asset of $3 million and was included in Prepaid expenses and other current assets, Accounts payable and accrued liabilities, and Other assets on the Consolidated Balance Sheets. At September 30, 2020, the fair value of these derivatives was a net liability of $1 million and was included in Prepaid expenses and other current assets and Other liabilities on the Consolidated Balance Sheets. These derivatives are classified as Level 2 instruments within the fair value hierarchy as the fair value determination was based on observable inputs.

At September 30, 2021 and 2020, the fair value of Guaranteed investment contracts, included in Other assets on the Consolidated Balance Sheets, was $10 million and $11 million, respectively. Guaranteed investment contracts were classified as Level 2 instruments within the fair value hierarchy as the fair value determination was based on other observable inputs.

At both September 30, 2021 and 2020, the fair values of cash and cash equivalents, accounts and notes receivable, accounts payable and accrued liabilities, and short term borrowings and variable rate debt approximated their carrying values due to the short-term nature of these instruments. The carrying value and fair value of the long-term fixed rate debt were $1.06 billion and $1.13 billion, respectively, as of September 30, 2021 and $1.08 billion and $1.18 billion, respectively, as of September 30, 2020. The fair values of Cabot's fixed rate long-term debt are estimated based on comparable quoted market prices at the respective period ends. The carrying amounts of Cabot's floating rate long-term debt and finance lease obligations approximate their fair values. All such measurements are based on observable inputs and are classified as Level 2 within the fair value hierarchy. The valuation technique used is the discounted cash flow model.

Note K. Derivatives

Risk Management

Cabot's business operations are exposed to changes in interest rates, foreign currency exchange rates and commodity prices because Cabot finances certain operations through long and short-term borrowings, denominates transactions in a variety of foreign currencies and purchases certain commoditized raw materials. Changes in these rates and prices may have an impact on future cash flows and earnings. The Company manages these risks through normal operating and financing activities and, when deemed appropriate, through the use of derivative financial instruments.

The Company has policies governing the use of derivative instruments and does not enter into financial instruments for trading or speculative purposes.

By using derivative instruments, Cabot is subject to credit and market risk. If a counterparty fails to fulfill its performance obligations under a derivative contract, Cabot's credit risk will equal the fair value of the derivative. Generally, when the fair value of a derivative contract is positive, the counterparty owes Cabot, thus creating a payment risk for Cabot. The Company minimizes counterparty credit (or repayment) risk by entering into transactions with major financial institutions of investment grade credit rating. Cabot's exposure to market risk is not hedged in a manner that completely eliminates the effects of changing market conditions on earnings or cash flow. No significant concentration of credit risk existed at September 30, 2021 and 2020.

Interest Rate Risk Management

Cabot's objective is to maintain a certain fixed-to-variable interest rate mix on the Company's debt obligations. Cabot may enter into interest rate swaps as a hedge of the underlying debt instruments to effectively change the characteristics of the interest rate without changing the debt instrument. As of both September 30, 2021 and 2020, there were no derivatives held to manage interest rate risk.

Foreign Currency Risk Management

Cabot's international operations are subject to certain risks, including currency exchange rate fluctuations and government actions. Cabot endeavors to match the currency in which debt is issued to the currency of the Company's major, stable cash receipts. In some situations, Cabot has issued debt denominated in U.S. dollars and then entered into cross-currency swaps that exchange the dollar principal and interest payments into Euro denominated principal and interest payments.

Additionally, the Company has foreign currency exposure arising from its net investments in foreign operations. Cabot may enter into cross-currency swaps to mitigate the impact of currency rate changes on the Company's net investments.

The Company also has foreign currency exposure arising from the denomination of monetary assets and liabilities in foreign currencies other than the functional currency of a given subsidiary as well as the risk that currency fluctuations could affect the dollar value of future cash flows generated in foreign currencies. Accordingly, Cabot uses short-term forward contracts to minimize the exposure to foreign currency risk. In certain situations where the Company has forecasted purchases under a long-term commitment or forecasted sales denominated in a foreign currency, Cabot may enter into appropriate financial instruments in accordance with the Company's risk management policy to hedge future cash flow exposures.

The following table provides details of the derivatives held as of September 30, 2021 and 2020 to manage foreign currency risk.

		Notional Amount		
Description	**Borrowing**	**September 30, 2021**	**September 30, 2020**	**Hedge Designation**
Cross Currency Swaps	3.4% Notes	USD 250 million swapped to EUR 223 million	USD 250 million swapped to EUR 223 million	Net investment
Forward Foreign Currency Contracts[1]	N/A	USD 48 million	USD 54 million	No designation

[1] As of September 30, 2021, Cabot's forward foreign exchange contracts were denominated in Indonesian rupiah and Czech koruna. As of September 30, 2020, Cabot's forward foreign exchange contracts were denominated in Canadian dollar, Indonesian rupiah and Czech koruna.

Accounting for Derivative Instruments and Hedging Activities

The Company determines the fair value of financial instruments using quoted market prices whenever available. When quoted market prices are not available for various types of financial instruments (such as forwards, options and swaps), the Company uses standard models with market-based inputs, which take into account the present value of estimated future cash flows and the ability of Cabot or the financial counterparty to perform. For interest rate and cross-currency swaps, the significant inputs to these models are interest rate curves for discounting future cash flows and are adjusted for credit risk. For forward foreign currency contracts, the significant inputs are interest rate curves for discounting future cash flows, and exchange rate curves of the foreign currency for translating future cash flows.

Fair Value Hedge

For derivative instruments that are designated and qualify as fair value hedges, the gain or loss on the derivative as well as the offsetting gain or loss on the hedged item attributable to the hedged risk are recognized in current period earnings.

Cash Flow Hedge

For derivative instruments that are designated and qualify as cash flow hedges, the effective portion of the gain or loss on the derivative is recorded in AOCI and reclassified to earnings in the same period or periods during which the hedged transaction affects earnings. Gains and losses on the derivative representing either hedge ineffectiveness or hedge components excluded from the assessment of effectiveness are recognized in current period earnings.

Net Investment Hedge

For net investment hedges, changes in the fair value of the effective portion of the derivatives' gains or losses are reported as CTA in AOCI while changes in the ineffective portion are reported in earnings. Effectiveness is assessed based on the hypothetical derivative method. The gains or losses on derivative instruments reported in AOCI are reclassified to earnings in the period in which earnings are affected by the underlying item, such as a disposal or substantial liquidations of the entities being hedged.

The Company has cross-currency swaps with a notional amount of $250 million, which are designated as hedges of its net investments in certain Euro denominated subsidiaries. Cash settlements occur semi-annually on March 15th and September 15th for fixed rate interest payments and a cash exchange of the notional currency amount will occur at the end of the term in 2026. During both fiscal 2021 and fiscal 2020, the Company received net cash interest of $3 million and $4 million, respectively. As of September 30, 2021, the fair value of these swaps was an asset of $3 million and was included in Prepaid expenses and other current assets and Other assets, and the cumulative gain of $6 million was included in AOCI on the Consolidated Balance Sheets. As of September 30, 2020, the fair value of these swaps was a net liability of $1 million and was included in Prepaid expenses and other current assets and Other liabilities, and the cumulative gain of $2 million was included in AOCI on the Consolidated Balance Sheets.

The following table summarizes the impact of the cross-currency swaps to AOCI and the Consolidated Statements of Operations:

	Years Ended September 30								
	2021	2020	2019	2021	2020	2019	2021	2020	2019
Description	Gain/(Loss) Recognized in AOCI			(Gain)/Loss Reclassified from AOCI into Interest Expense in the Consolidated Statements of Operations			(Gain)/Loss Recognized in Interest Expense in the Consolidated Statements of Operations (Amount Excluded from Effectiveness Testing)		
	(In millions)								
Cross-currency swaps	$ 7	$ 1	$ 23	$ (5)	$ (5)	$ (5)	$ 2	$ 2	$ 1

Other Derivative Instruments

From time to time, the Company may enter into certain derivative instruments that may not be designated as hedges for accounting purposes, which may include cross-currency swaps, foreign currency forward contracts and commodity derivatives. For cross-currency swaps and foreign currency forward contracts not designated as hedges, the Company uses standard models with market-based inputs. The significant inputs to these models are interest rate curves for discounting future cash flows, and exchange rate curves of the foreign currency for translating future cash flows. In determining the fair value of the commodity derivatives, the significant inputs to valuation models are quoted market prices of similar instruments in active markets. Although these derivatives do not qualify for hedge accounting, Cabot believes that such instruments are closely correlated with the underlying exposure, thus managing the associated risk. The gains or losses from changes in the fair value of derivative instruments that are not accounted for as hedges are recognized in current period earnings.

At both September 30, 2021 and 2020, the fair value of derivative instruments not designated as hedges were immaterial. At September 30, 2021, these instruments were presented in Prepaid expenses and other current assets and Accounts payable and accrued liabilities on the Consolidated Balance Sheets. At September 30, 2020, these instruments were presented in Prepaid expenses and other current assets on the Consolidated Balance Sheets.

Note L. Insurance Recoveries

Pepinster, Belgium

In July 2021, the Company's Specialty Compounds manufacturing and research and development facility in Pepinster, Belgium experienced significant flooding. Full production is temporarily halted and is not expected to resume until the second quarter of fiscal 2022.

As a result of the flooding, the Company recorded expenses of $17 million for clean-up costs and inventory and fixed asset impairments, and simultaneously recognized a fully offsetting loss recovery from expected insurance proceeds, as the Company expects insurance proceeds in excess of the incurred costs and policy deductibles. Accordingly, there is no net current period earnings impact related to these costs recognized in the Consolidated Statements of Operations for fiscal 2021. The flood-related expenses and loss recovery are both included within Cost of sales in the Consolidated Statements of Operations in fiscal 2021.

The Company currently estimates additional charges and repair expenditures for the damages will be in a range of $5 million to $10 million, which is expected to be offset by insurance recoveries.

As of September 30, 2021, Cabot has received insurance proceeds of $8 million, of which $6 million is included in Cash provided by operating activities and $2 million is included in Cash provided by investing activities in the Consolidated Statements of Cash Flows for fiscal 2021.

Note M. Employee Benefit Plans

The information below provides detail concerning the Company's benefit obligations under the defined benefit and postretirement benefit plans it sponsors.

Defined benefit plans provide pre-determined benefits to employees that are distributed upon retirement. Cabot is making all sponsor required contributions to these plans. The accumulated benefit obligation was $3 million for the U.S. defined benefit plan and $209 million for the foreign plans as of September 30, 2021 and $99 million for the U.S. defined benefit plans and $215 million for the foreign plans as of September 30, 2020. As of September 30, 2021, the remaining U.S. defined benefit plan is the frozen Supplemental Cash Balance Plan.

The following provides information about projected benefit obligations, plan assets, the funded status and weighted-average assumptions of the defined benefit pension and postretirement benefit plans:

	Years Ended September 30							
	2021		2020		2021		2020	
	Pension Benefits				Postretirement Benefits			
	U.S.	Foreign	U.S.	Foreign	U.S.	Foreign	U.S.	Foreign
	(In millions)							
Change in Benefit Obligations:								
Benefit obligation at beginning of year	$ 99	$ 231	$ 157	$ 220	$ 27	$ 20	$ 28	$ 20
Service cost	—	6	1	5	—	—	—	—
Interest cost	—	3	4	3	—	1	1	—
Plan participants' contribution	—	1	—	1	—	—	—	—
Foreign currency exchange rate changes	—	6	—	7	—	1	—	—
(Gain) loss from changes in actuarial assumptions and plan experience	(1)	(11)	2	5	—	(2)	1	—
Benefits paid	(3)	(8)	(7)	(8)	(2)	(1)	(3)	—
Settlements or curtailments	(92)	(8)	(57)	(2)	—	—	—	—
Other	—	1	(1)	—	—	—	—	—
Benefit obligation at end of year	$ 3	$ 221	$ 99	$ 231	$ 25	$ 19	$ 27	$ 20

	Years Ended September 30							
	2021		2020		2021		2020	
	Pension Benefits				Postretirement Benefits			
	U.S.	Foreign	U.S.	Foreign	U.S.	Foreign	U.S.	Foreign
	(In millions)							
Change in Plan Assets:								
Fair value of plan assets at beginning of year	$ 96	$ 204	$ 151	$ 195	$ —	$ —	$ —	$ —
Actual return on plan assets	1	14	9	7	—	—	—	—
Employer contribution	—	7	1	6	2	1	3	—
Plan participants' contribution	—	1	—	1	—	—	—	—
Foreign currency exchange rate changes	—	7	—	5	—	—	—	—
Benefits paid	(3)	(8)	(7)	(8)	(2)	(1)	(3)	—
Settlements or curtailments	(92)	(8)	(57)	(2)	—	—	—	—
Expenses paid from assets	—	—	(1)	—	—	—	—	—
Other	(2)	—	—	—	—	—		
Fair value of plan assets at end of year	$ —	$ 217	$ 96	$ 204	$ —	$ —	$ —	$ —
Funded status	$ (3)	$ (4)	$ (3)	$ (27)	$ (25)	$ (19)	$ (27)	$ (20)
Recognized asset (liability)	$ (3)	$ (4)	$ (3)	$ (27)	$ (25)	$ (19)	$ (27)	$ (20)

Pension Assumptions and Strategy

The following assumptions were used to determine the pension benefit obligations and periodic benefit costs as of and for the years ended September 30:

	2021		2020		2019	
	Pension Benefits					
	U.S.	Foreign	U.S.	Foreign	U.S.	Foreign
Actuarial assumptions as of the year-end measurement date:						
Discount rate	2.2%	2.1%	3.1%	1.7%	2.6%	1.8%
Rate of increase in compensation	N/A	2.9%	N/A	3.0%	N/A	3.0%
Cash balance interest credit rate	2.0%	1.7%	0.9%	1.7%	0.9%	1.9%
Actuarial assumptions used to determine net periodic benefit cost during the year:						
Discount rate - benefit obligation	2.5%	1.7%	2.6%	1.8%	4.2%	2.4%
Discount rate - service cost	N/A	1.7%	N/A	1.8%	N/A	2.5%
Discount rate - interest cost	1.4%	1.4%	2.6%	1.6%	3.9%	2.1%
Expected long-term rate of return on plan assets	N/A	4.6%	2.5%	5.2%	6.3%	4.9%
Rate of increase in compensation	N/A	3.0%	N/A	3.0%	N/A	2.7%
Cash balance interest credit rate	2.1%	1.7%	0.9%	1.9%	3.3%	2.0%

Postretirement Assumptions and Strategy

The following assumptions were used to determine the postretirement benefit obligations and net costs as of and for the years ended September 30:

	2021		2020		2019	
	Postretirement Benefits					
	U.S.	Foreign	U.S.	Foreign	U.S.	Foreign
Actuarial assumptions as of the year-end measurement date:						
Discount rate	2.4%	2.8%	2.1%	2.4%	2.9%	2.4%
Initial health care cost trend rate	5.5%	6.9%	6.0%	6.9%	6.5%	6.9%
Actuarial assumptions used to determine net cost during the year:						
Discount rate - benefit obligation	2.1%	2.4%	2.9%	2.4%	4.1%	3.2%
Discount rate - service cost	1.5%	3.0%	2.6%	2.9%	4.0%	3.5%
Discount rate - interest cost	1.4%	2.1%	2.5%	2.3%	3.7%	3.1%
Initial health care cost trend rate	6.0%	6.9%	6.5%	6.9%	7.0%	7.0%

Cabot uses discount rates as of September 30, the plans' measurement date, to determine future benefit obligations under its U.S. and foreign defined benefit plans. The discount rates for the defined benefit plans in Canada, the Eurozone, Japan, Switzerland, the United Arab Emirates, the United Kingdom and the U.S. are derived from yield curves that reflect high quality corporate bond yield or swap rate information in each region and reflect the characteristics of Cabot's employee benefit plans. The discount rates for the defined benefit plans in Mexico, the Czech Republic and Indonesia are based on government bond indices that best reflect the durations of the plans, adjusted for credit spreads presented in selected AA corporate bond indices. The rates utilized are selected because they represent long-term, high quality, fixed income benchmarks that approximate the long-term nature of Cabot's pension obligations and related payouts.

Amounts recognized in the Consolidated Balance Sheets at September 30, 2021 and 2020 related to the Company's defined benefit pension and postretirement benefit plans were as follows:

	September 30							
	2021		2020		2021		2020	
	Pension Benefits				Postretirement Benefits			
	U.S.	Foreign	U.S.	Foreign	U.S.	Foreign	U.S.	Foreign
	(In millions)							
Other assets	$ —	$ 35	$ —	$ 21	$ —	$ —	$ —	$ —
Accounts payable and accrued liabilities	$ (1)	$ (1)	$ —	$ (2)	$ (3)	$ (1)	$ (3)	$ (1)
Other liabilities	$ (2)	$ (38)	$ (3)	$ (46)	$ (22)	$ (18)	$ (24)	$ (19)

Amounts recognized in AOCI at September 30, 2021 and 2020 related to the Company's defined benefit pension and postretirement benefit plans were as follows:

	September 30							
	2021		2020		2021		2020	
	Pension Benefits				Postretirement Benefits			
	U.S.	Foreign	U.S.	Foreign	U.S.	Foreign	U.S.	Foreign
	(In millions)							
Net actuarial (gain) loss	$ 1	$ 20	$ 6	$ 40	$ (4)	$ 2	$ (4)	$ 4
Net prior service credit	—	—	—	—	—	—	—	—
Balance in accumulated other comprehensive income (loss), pretax	$ 1	$ 20	$ 6	$ 40	$ (4)	$ 2	$ (4)	$ 4

Estimated Future Benefit Payments

The Company expects that the following benefit payments will be made to plan participants in the years from 2022 to 2030:

	Pension Benefits		Postretirement Benefits	
Years Ending September 30	U.S.	Foreign	U.S.	Foreign
	(In millions)			
2022	$ —	$ 10	$ 2	$ 1
2023	$ —	$ 11	$ 2	$ 1
2024	$ —	$ 12	$ 2	$ 1
2025	$ —	$ 11	$ 2	$ 1
2026	$ —	$ 11	$ 2	$ 1
2027 - 2030	$ 1	$ 59	$ 8	$ 4

Postretirement medical benefits are unfunded and impact Cabot's cash flows as benefits become due, which is expected to be $3 million in fiscal 2022. The Company expects to contribute $3 million to its pension plans in fiscal 2022.

Net periodic defined benefit pension and other postretirement benefit costs include the following components:

	Pension Benefits 2021 U.S.	Pension Benefits 2021 Foreign	Pension Benefits 2020 U.S.	Pension Benefits 2020 Foreign	Pension Benefits 2019 U.S.	Pension Benefits 2019 Foreign	Postretirement Benefits 2021 U.S.	Postretirement Benefits 2021 Foreign	Postretirement Benefits 2020 U.S.	Postretirement Benefits 2020 Foreign	Postretirement Benefits 2019 U.S.	Postretirement Benefits 2019 Foreign
	Years Ended September 30 (In millions)											
Service cost	$ —	$ 6	$ 1	$ 5	$ 1	$ 7	$ —	$ —	$ —	$ —	$ —	$ —
Interest cost	—	3	4	3	5	5	—	1	1	—	1	1
Expected return on plan assets	—	(10)	(3)	(9)	(9)	(10)	—	—	—	—	—	—
Amortization of prior service cost	—	—	—	—	—	2	—	—	—	—	(2)	—
Amortization of net losses	—	3	—	3	—	2	—	—	(1)	1	(1)	—
Settlements or curtailments cost	4	1	3	1	—	(7)	—	—	—	—	—	—
Other	—	2	—	—	—	—	—	—	—	—	—	—
Net periodic (benefit) cost	$ 4	$ 5	$ 5	$ 3	$ (3)	$ (1)	$ —	$ 1	$ —	$ 1	$ (2)	$ 1

Other changes in plan assets and benefit obligations recognized in Other comprehensive income (loss) are as follows:

	Pension Benefits 2021 U.S.	Pension Benefits 2021 Foreign	Pension Benefits 2020 U.S.	Pension Benefits 2020 Foreign	Pension Benefits 2019 U.S.	Pension Benefits 2019 Foreign	Postretirement Benefits 2021 U.S.	Postretirement Benefits 2021 Foreign	Postretirement Benefits 2020 U.S.	Postretirement Benefits 2020 Foreign	Postretirement Benefits 2019 U.S.	Postretirement Benefits 2019 Foreign
	Years Ended September 30 (In millions)											
Net (gains) losses	$ (2)	$ (15)	$ (4)	$ 8	$ 14	$ (16)	$ —	$ (2)	$ 1	$ (1)	$ —	$ 2
Prior service (credit) cost	—	(1)	—	—	—	3	—	—	—	—	—	—
Amortization of prior service credit	—	—	—	—	—	(2)	—	—	—	—	2	—
Amortization of prior unrecognized loss	—	(3)	—	(3)	—	(2)	—	—	1	(1)	1	—
Loss on divestiture	—	—	—	—	—	(2)	—	—	—	—	—	—
Settlements or curtailments cost	(4)	(1)	(3)	(1)	—	7	—	—	—	—	—	—
Net changes recognized in Total other comprehensive (income) loss (1)	$ (6)	$ (20)	$ (7)	$ 4	$ 14	$ (12)	$ —	$ (2)	$ 2	$ (2)	$ 3	$ 2

(1) The tax impact on pension and other postretirement benefit liability adjustments arising during the period was a tax benefit of $8 million, a tax provision of less than $1 million, and a tax benefit of $5 million for fiscal 2021, 2020, and 2019, respectively.

In fiscal 2019, the Company adjusted the assumptions in its U.K. plan to calculate accrued benefits for a portion of the plan's participants. As a result of this change, a prior service cost of $2 million was recorded in Other income (expense) in the Consolidated Statements of Operations.

Settlements of Employee Benefit Plans

In fiscal 2019, the Company's Board of Directors approved a resolution to terminate the U.S. pension plan. The Company commenced the U.S. plan termination process during the third quarter of 2019 and completed the transfer of the U.S. plan's assets in the first quarter of fiscal 2021. The pension liability was settled through a combination of lump-sum payments and purchased annuities, neither of which required an additional cash contribution. In the fourth quarter of fiscal 2020, the Company recognized a settlement loss of $3 million related to lump-sum payments made to participants who elected this option, which was recorded in Other income (expense) in the Consolidated Statements of Operations. In fiscal 2021, the company recognized an additional $4 million settlement loss in Other income (expense) related to the final asset transfers through purchased annuities.

In fiscal 2019, the Company transferred the majority of the defined benefit obligations and pension plan assets in one of its foreign defined benefit plans to a multi-employer plan. This action moved the administrative, asset custodial, asset investment, actuarial, communication and benefit payment obligations to the multi-employer fund administrator. As a result of the transfer, a pre-tax gain of $7 million was recorded in fiscal 2019, which is included in Other income (expense) in the Consolidated Statements of Operations. In addition, as part of the transfer, the Company recorded a $3 million charge in fiscal 2019 reflecting the Company's agreement to fund the actuarial loss gap between the terminated plan and the multi-employer plan. This charge is included Other income (expense) in the Consolidated Statements of Operations.

In fiscal 2021 and 2020, Cabot's pension benefit obligations decreased by $106 million and $47 million, respectively, which was driven by the U.S. pension plan termination and settlement discussed above.

Plan Assets

The Company's defined benefit pension plans weighted-average asset allocations at September 30, 2021 and 2020 by asset category, are as follows:

	September 30			
	2021		2020	
	Pension Assets			
	U.S.	Foreign	U.S.	Foreign
Equity securities	—%	21%	—%	39%
Debt securities	—%	73%	95%	50%
Real estate	—%	2%	—%	6%
Cash and other securities	—%	4%	5%	5%
Total	—%	100%	100%	100%

To develop the expected long-term rate of return on plan assets assumption, the Company used a capital asset pricing model. The model considers the current level of expected returns on risk-free investments comprised of government bonds, the historical level of the risk premium associated with the other asset classes in which the portfolio is invested, and the expectations for future returns for each asset class. The expected return for each asset class was then weighted based on the target asset allocation to develop the expected long-term rate of return for each plan.

Cabot's investment strategy for each of its foreign defined benefit plans is generally based on a set of investment objectives and policies that cover time horizons and risk tolerance levels consistent with plan liabilities. Periodic studies are performed to determine the asset mix that will meet pension obligations at a reasonable cost to the Company. The assets of the defined benefit plans are comprised principally of investments in equity and high-quality fixed income securities, which are broadly diversified across the capitalization and style spectrum and are managed using both active and passive strategies. The weighted average target asset allocation for the foreign plans is 21% in equity, 73% in fixed income, 2% in real estate, and 4% in cash and other securities.

For pension plan assets classified as Level 1 measurements (measured using quoted prices in active markets), total fair value is either the price of the most recent trade at the time of the market close or the official close price, as defined by the exchange on which the asset is most actively traded on the last trading day of the period, multiplied by the number of units held without consideration of transaction costs.

For pension plan assets classified as Level 2 measurements, where the security is frequently traded in less active markets, fair value is based on the closing price at the end of the period; where the security is less frequently traded, fair value is based on the price a dealer would pay for the security or similar securities, adjusted for any terms specific to that asset or liability. Market inputs are obtained from well-established and recognized vendors of market data and subjected to tolerance/quality checks.

The fair value of the Company's pension plan assets at September 30, 2021 and 2020 by asset category is as follows:

	September 30					
	2021			2020		
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Observable Inputs (Level 2)	Total
	(In millions)					
Cash	$ —	$ —	$ —	$ 4	$ —	$ 4
Direct investments:						
U.S government bonds	—	—	—	12	—	12
U.S. corporate bonds	—	—	—	84	—	84
Non-U.S. equities	4	—	4	4	—	4
Non-U.S. government bonds	2	—	2	2	—	2
Non-U.S. corporate bonds	3	—	3	3	—	3
Mortgage backed securities	—	1	1	—	1	1
Other fixed income	1	—	1	1	—	1
Total direct investments	10	1	11	106	1	107
Investment funds:						
Equity funds(1)	—	42	42	—	76	76
Fixed income funds(2)	—	155	155	—	95	95
Real estate funds(3)	—	3	3	—	12	12
Cash equivalent funds	1	—	1	1	—	1
Total investment funds	1	200	201	1	183	184
Alternative investments:						
Insurance contracts(4)	—	5	5	—	5	5
Other alternative investments	—	—	—	—	—	—
Total alternative investments	—	5	5	—	5	5
Total pension plan assets	$ 11	$ 206	$ 217	$ 111	$ 189	$ 300

(1) The equity funds asset class includes funds that invest in U.S. equities as well as equity securities issued by companies incorporated, listed or domiciled in countries in developed and/or emerging markets. These companies may be in the small-, mid- or large-cap categories.

(2) The fixed income funds asset class includes investments in high quality funds. High quality fixed income funds primarily invest in low risk U.S. and non-U.S. government securities, investment-grade corporate bonds, mortgages and asset-backed securities. A significant portion of the fixed income funds include investment in long-term bond funds.

(3) The real estate funds asset class includes funds that primarily invest in entities which are principally engaged in the ownership, acquisition, development, financing, sale and/or management of income-producing real estate properties, both commercial and residential. These funds typically seek long-term growth of capital and current income that is above average relative to public equity funds.

(4) Insurance contracts held by the Company's non-U.S. plans are issued by well-known, highly rated insurance companies.

Defined Contribution Plans

In addition to benefits provided under the defined benefit and postretirement benefit plans, the Company provides benefits under defined contribution plans. Cabot recognized expenses related to these plans of $18 million in fiscal 2021, $19 million in fiscal 2020, and $20 million in fiscal 2019.

Note N. Stock-Based Compensation

The Cabot Corporation Amended and Restated 2017 Long-Term Incentive Plan (the "Amended Plan") was established by the Company to provide stock-based compensation to eligible employees. The Amended Plan was approved by Cabot's stockholders on March 11, 2021 and authorizes the issuance of up to 8,625,000 shares of common stock. It is the only equity incentive plan under which the Company may grant equity awards to employees.

The terms of awards made under Cabot's equity compensation plans are generally determined by the Compensation Committee of Cabot's Board of Directors. The awards made in fiscal 2021, 2020 and 2019 consist of grants of stock options, time-based restricted stock units, and performance-based restricted stock units. The options were issued with an exercise price equal to 100% of the market price of Cabot's common stock on the date of grant, generally vest over a three year period (30% on each of the first and second anniversaries of the date of grant and 40% on the third anniversary of the date of grant) and have a ten-year term. The restricted stock units generally vest three years from the date of the grant. The number of shares issuable, if any, when a performance-based restricted stock unit award vests will depend on the degree of achievement of the corporate performance metrics for each year within the three-year performance period of the award. Accordingly, future compensation costs associated with outstanding awards of performance-based restricted stock units may increase or decrease based on the probability of the Company achieving the performance metrics.

Stock-based employee compensation expense was $20 million, $9 million and $8 million, after tax, for fiscal 2021, 2020 and 2019, respectively.

The following table presents stock-based compensation expenses included in the Company's Consolidated Statements of Operations:

	Years Ended September 30		
	2021	2020	2019
		(In millions)	
Cost of sales	$ 2	$ 1	$ 1
Selling and administrative expenses	17	7	9
Research and technical expenses	2	1	1
Stock-based compensation expense	21	9	11
Income tax benefit	(1)	—	(3)
Net stock-based compensation expense	$ 20	$ 9	$ 8

As of September 30, 2021, Cabot had $21 million and $2 million of total unrecognized compensation cost related to restricted stock units and options, respectively, granted under the Company's equity incentive plans. These costs are expected to be recognized over a weighted-average period of approximately one year for restricted stock units and options.

Equity Incentive Plan Activity

The following table summarizes the total stock option and restricted stock unit activity in the equity incentive plans for fiscal 2021:

	Stock Options		Restricted Stock Units	
	Total Options [(4)]	Weighted Average Exercise Price	Restricted Stock Units[(1)]	Weighted Average Grant Date Fair Value
		(Shares in thousands)		
Outstanding at September 30, 2020	1,273	$ 50.45	604	$ 52.87
Granted	394	$ 40.97	369	$ 41.92
Performance-based adjustment[(2)]	—	$ —	88	$ 44.56
Exercised / Vested	(121)	$ 44.60	(184)	$ 60.11
Cancelled / Forfeited	(70)	$ 50.96	(18)	$ 49.98
Outstanding at September 30, 2021[(3)]	1,476	$ 48.36	859	$ 45.82
Exercisable at September 30, 2021	731	$ 51.55		

(1) The number granted represents the number of shares issuable upon vesting of time-based restricted stock units and performance-based restricted stock units, assuming the Company performs at the target performance level in each year of the three-year performance period.

(2) Represents the net incremental number of shares issuable upon vesting of performance-based restricted stock units based on the Company's actual financial performance metrics for fiscal 2021.

(3) Stock options outstanding include options vested and expected to vest in the future and have a weighted average remaining contractual life of 7.12 years.

(4) Unvested stock options were approximately 745,000 and 609,000 at September 30, 2021 and 2020 and their weighted average grant date fair values were $45.24 and $51.38, respectively.

Stock Options

As of September 30, 2021, the aggregate intrinsic value for all options outstanding and options exercisable was $5 million. The intrinsic value of options exercised during fiscal 2021, 2020 and 2019 was $2 million, nominal and $1 million, respectively, and the Company received cash of $5 million, $1 million and $2 million, respectively, from these exercises. The Company recognized immaterial tax benefits in fiscal 2021, 2020, and 2019 from the exercise of stock options which were included in (Provision) benefit for income taxes within the Consolidated Statements of Operations.

The Company uses the Black-Scholes option-pricing model to estimate the fair value of the options at the grant date. The weighted average grant date fair values of options granted during fiscal 2021, 2020 and 2019 was $9.69, $10.68, and $10.85 per option, respectively. The fair values on the grant date were calculated using the following weighted-average assumptions:

	Years Ended September 30		
	2021	2020	2019
Expected stock price volatility	36%	28%	27%
Risk free interest rate	0.6%	1.9%	3.1%
Expected life of options (years)	6	6	6
Expected annual dividends per year	$ 1.40	$ 1.40	$ 1.32

The expected stock price volatility assumption was determined using the historical volatility of the Company's common stock over the expected life of the option. The expected term reflects the anticipated time period between the measurement date and the exercise date or post-vesting cancellation date.

Restricted Stock Units

The value of restricted stock unit awards is the closing stock price at the date of the grant. The weighted average grant date fair values of restricted stock unit awards granted during fiscal 2021, 2020 and 2019 was $41.92, $49.36, and $49.44, respectively. The intrinsic value of restricted stock units (meaning the fair value of the units on the date of vesting) that vested during fiscal 2021, 2020 and 2019 was $8 million, $13 million and $18 million, respectively.

Supplemental 401(k) Plan

Cabot's Deferred Compensation and Supplemental Retirement Plan ("SERP 401(k)") provides benefits to highly compensated employees when the retirement plan limits established under the Internal Revenue Code prevent them from receiving all of the Company matching and retirement contributions that would otherwise be provided under the qualified 401(k) plan. The SERP 401(k) is non-qualified and unfunded. Contributions under the SERP 401(k) are treated as if invested in Cabot common stock. The majority of the distributions made under the SERP 401(k) are required to be paid with shares of Cabot common stock. The remaining distributions, which relate to certain grandfathered accounts, will be paid in cash based on the market price of Cabot common stock at the time of distribution. The aggregate value of the accounts that will be paid out in stock, which is equivalent to approximately 77,000 and 76,000 shares of Cabot common stock as of September 30, 2021 and 2020, respectively, is reflected at historic cost in stockholders' equity, and the aggregate value of the accounts that will be paid in cash, which was immaterial as of September 30, 2021 and 2020, was included in Other liabilities and marked-to-market quarterly.

Note O. Restructuring

Cabot's restructuring activities were recorded in the Consolidated Statements of Operations as follows:

	Years Ended September 30		
	2021	2020	2019
		(In millions)	
Cost of sales	$ 7	$ 6	$ 9
Selling and administrative expenses	3	13	7
Research and technical expenses	1	—	—
Total	$ 11	$ 19	$ 16

Details of all restructuring activities and the related reserves for fiscal 2019, 2020, and 2021 were as follows:

	Severance and Employee Benefits	Environmental Remediation and Decommissioning Activities	Non-Cash Asset Impairment and Accelerated Depreciation	Other	Total
			(In millions)		
Reserve at September 30, 2018	$ 1	$ 4	$ —	$ —	$ 5
Charges (gain)	11	—	2	3	16
Costs charged against assets	—	—	(2)	—	(2)
Cash (paid) received	(9)	—	—	(3)	(12)
Reserve at September 30, 2019	3	4	—	—	7
Charges (gain)	14	—	1	4	19
Costs charged against liabilities	—	—	(1)	—	(1)
Cash paid	(12)	—	—	(4)	(16)
Reserve at September 30, 2020	5	4	—	—	9
Charges (gain)	5	1	2	3	11
Costs charged against assets	—	—	(2)	—	(2)
Cash (paid) received	(5)	(1)	—	(3)	(9)
Reserve at September 30, 2021	$ 5	$ 4	$ —	$ —	$ 9

Cabot’s severance and employee benefit reserves and other closure related reserves are reflected in Accounts payable and accrued liabilities on the Company’s Consolidated Balance Sheets. Cabot’s environmental remediation reserves related to restructuring activities are reflected in Other liabilities on the Company’s Consolidated Balance Sheets.

Reorganization Actions

Beginning in fiscal 2020, the Company has undertaken various actions that it believes will enable the Company to perform certain activities more effectively. These actions have primarily consisted of the reorganization of Cabot’s leadership structure, the creation of a Global Business Services function and other operational efficiency initiatives. As of September 30, 2021, the Company had recorded total charges of $22 million, of which $17 million was recorded in fiscal 2020, primarily related to severance costs, and also had $4 million of accrued severance charges in the Consolidated Balance Sheets related to these actions. The Company expects to record additional restructuring charges of approximately $3 million in fiscal 2022 and $2 million thereafter, primarily related to severance and site demolition costs associated with the reorganization. As of September 30, 2021, the Company had paid a total of $18 million in cash, of which $13 million was paid in fiscal 2020, and expects to have future cash outlays of approximately $7 million in fiscal 2022 and $2 million thereafter related to the reorganization.

Purification Solutions Transformation Plan

In December 2018, the Company initiated a transformation plan to improve the long-term performance of the Purification Solutions segment. The purpose of the plan was to focus the business’s product portfolio, optimize its manufacturing assets, and streamline its organizational structure to support the new focus. As of September 30, 2021, the Company had recorded total charges of $15 million for this plan, of which $11 million was recorded in prior fiscal years, primarily related to severance costs, and also had $1 million of accrued severance and other charges in the Consolidated Balance Sheets related to this plan. The Company expects to record additional restructuring charges $2 million in fiscal 2022 and thereafter primarily related to decommissioning costs associated with the business’s manufacturing facility in Marshall, Texas. As of September 30, 2021, the Company had paid a total of $12 million in cash for this plan, of which $10 million was paid in prior fiscal years, and expects to have future cash outlays of approximately $2 million in fiscal 2022 and $1 million thereafter.

Note P. Accumulated Other Comprehensive Income (Loss)

Changes in each component of AOCI, net of tax, are as follows for fiscal 2020 and 2021:

	Currency Translation Adjustment	Unrealized Gains on Investment	Pension and Other Postretirement Benefit Liability Adjustment	Total
	(In millions)			
Balance at September 30, 2019 attributable to Cabot Corporation	$ (338)	$ 1	$ (54)	$ (391)
Other comprehensive income (loss) before reclassifications	42	—	3	45
Amounts reclassified from AOCI	(3)	—	6	3
Adoption of accounting standards	(3)	(1)	1	(3)
Less: Other comprehensive income (loss) attributable to noncontrolling interests	5	—	—	5
Balance at September 30, 2020 attributable to Cabot Corporation	(307)	—	(44)	(351)
Other comprehensive income (loss) before reclassifications	52	—	20	72
Amounts reclassified from AOCI	(3)	—	—	(3)
Less: Other comprehensive income (loss) attributable to noncontrolling interests	7	—	—	7
Balance at September 30, 2021 attributable to Cabot Corporation	$ (265)	$ —	$ (24)	$ (289)

The amounts reclassified out of AOCI and into the Consolidated Statements of Operations for fiscal 2021, 2020 and 2019 are as follows:

	Affected Line Item in the Consolidated Statements of Operations	Years Ended September 30 2021	2020	2019
		(In Millions)		
Derivatives: net investment hedges				
(Gains) losses reclassified to interest expense	Interest expense	$ (5)	$ (5)	$ (5)
(Gains) losses excluded from effectiveness testing and amortized to interest expense	Interest expense	2	2	1
Pension and other postretirement benefit liability adjustment				
Amortization of actuarial losses and prior service cost (credit)	Net Periodic Benefit Cost - see Note M for details	3	3	1
Settlement and curtailment loss (gain)	Net Periodic Benefit Cost - see Note M for details	5	4	(7)
Specialty Fluids divestiture	Specialty Fluids loss on sale and asset impairment - see Note D for details	—	—	(3)
Total before tax		$ 5	$ 4	$ (13)

Note Q. Earnings Per Share

The following tables summarize the components of the basic and diluted earnings per common share (“EPS”) computations:

	Years Ended September 30		
	2021	2020	2019
	(In millions, except per share amounts)		
Basic EPS:			
Net income (loss) attributable to Cabot Corporation	$ 250	$ (238)	$ 157
Less: Dividends and dividend equivalents to participating securities	1	—	1
Less: Undistributed earnings allocated to participating securities(1)	2	—	1
Earnings (loss) allocated to common shareholders (numerator)	$ 247	$ (238)	$ 155
Weighted average common shares and participating securities outstanding	57.5	57.3	59.5
Less: Participating securities(1)	0.8	0.7	0.8
Adjusted weighted average common shares (denominator)	56.7	56.6	58.7
Per share amounts—basic:			
Net income (loss) attributable to Cabot Corporation	$ 4.35	$ (4.21)	$ 2.64
Diluted EPS:			
Earnings (loss) allocated to common shareholders	$ 247	$ (238)	$ 155
Plus: Earnings allocated to participating securities	3	—	2
Less: Adjusted earnings allocated to participating securities(2)	3	—	2
Earnings (loss) available to common shares (numerator)	$ 247	$ (238)	$ 155
Adjusted weighted average common shares outstanding	56.7	56.6	58.7
Effect of dilutive securities:			
Common shares issuable(3)	0.1	—	0.1
Adjusted weighted average common shares (denominator)	56.8	56.6	58.8
Per share amounts—diluted:			
Net income (loss) attributable to Cabot Corporation	$ 4.34	$ (4.21)	$ 2.63

(1) Participating securities consist of shares underlying all outstanding and achieved performance-based restricted stock units and all unvested time-based restricted stock units. The holders of these units are entitled to receive dividend equivalents payable in cash to the extent dividends are paid on the Company’s outstanding common stock and equal in value to the dividends that would have been paid in respect of the shares underlying such units.

Undistributed earnings are the earnings which remain after dividends declared during the period are assumed to be distributed to the common and participating shareholders. Undistributed earnings are allocated to common and participating shareholders on the same basis as dividend distributions. The calculation of undistributed earnings is as follows:

	Years Ended September 30		
	2021	2020	2019
		(In millions)	
Calculation of undistributed earnings:			
Net income (loss) attributable to Cabot Corporation	$ 250	$ (238)	$ 157
Less: Dividends declared on common stock	80	80	80
Less: Dividends and dividend equivalents to participating securities	1	—	1
Undistributed earnings (loss)	$ 169	$ (318)	$ 76
Allocation of undistributed earnings:			
Undistributed earnings (loss) allocated to common shareholders	$ 167	$ (318)	$ 75
Undistributed earnings allocated to participating securities	2	—	1
Undistributed earnings (loss)	$ 169	$ (318)	$ 76

(2) Undistributed earnings (loss) are adjusted for the assumed distribution of dividends to the dilutive securities, which are described in (3) below, and then reallocated to participating securities.

(3) Represents incremental shares of common stock from the (i) assumed exercise of stock options issued under Cabot's equity incentive plans; and (ii) assumed issuance of shares to employees pursuant to the Company's Deferred Compensation and Supplemental Retirement Plan. For fiscal 2021, 2020, and 2019, respectively, 525,131, 1,821,018, and 942,060 incremental shares of common stock were excluded from the calculation of diluted earnings per share because the inclusion of these shares would have been antidilutive.

Note R. Income Taxes

Income from continuing operations before income taxes and equity in net earnings of affiliated companies was as follows:

	Years Ended September 30		
	2021	2020	2019
		(In millions)	
Domestic	$ (73)	$ (274)	$ (66)
Foreign	479	241	321
Income from continuing operations before income taxes and equity in earnings of affiliated companies	$ 406	$ (33)	$ 255

Tax provision (benefit) for income taxes consisted of the following:

	Years Ended September 30		
	2021	2020	2019
		(In millions)	
U.S. federal and state:			
Current	$ 11	$ (1)	$ 2
Deferred	(1)	139	(30)
Total	10	138	(28)
Foreign:			
Current	103	62	95
Deferred	10	(9)	3
Total	113	53	98
Provision (benefit) for income taxes	$ 123	$ 191	$ 70

The provision (benefit) for income taxes differed from the provision for income taxes as calculated using the U.S. statutory rate as follows:

	Years Ended September 30		
	2021	2020	2019
		(In millions)	
Computed tax expense at the federal statutory rate	$ 85	$ (7)	$ 53
Foreign impact of taxation at different rates, repatriation, valuation allowance, and other	8	4	17
Global Intangible Low Taxed Income (GILTI)	18	(4)	10
Impact of the Coronavirus Aid, Relief, and Economic Security ("CARES") Act of 2020	10	(10)	—
Impact of increase (decrease) in valuation allowance on U.S. deferred taxes	(1)	228	—
U.S. and state benefits from research and experimentation activities	(2)	(2)	(2)
Provision (settlement) of unrecognized tax benefits	1	(7)	(8)
Permanent differences, net	7	—	1
State taxes, net of federal effect	(3)	(11)	(1)
Provision (benefit) for income taxes	$ 123	$ 191	$ 70

Significant components of deferred income taxes were as follows:

	September 30	
	2021	2020
	(In millions)	
Deferred tax assets:		
Deferred expenses	$ 14	$ 19
Intangible assets	38	37
Inventory	13	13
Operating lease liability	21	20
Other	42	51
Pension and other benefits	32	35
Net operating loss carryforwards	257	254
Foreign tax credit carryforwards	48	58
R&D credit carryforwards	46	44
Other business credit carryforwards	24	23
Subtotal	535	554
Valuation allowance	(470)	(481)
Total deferred tax assets	$ 65	$ 73

	September 30	
	2021	2020
	(In millions)	
Deferred tax liabilities:		
Property, plant and equipment	$ (47)	$ (40)
Right of use asset	(20)	(20)
Unremitted earnings of non-U.S. subsidiaries	(18)	(18)
Total deferred tax liabilities	$ (85)	$ (78)

Subsequent to the filing of the Company’s financial statements as of and for the year ended September 30, 2020, the Company identified a misstatement related to the disclosure of the previously reported net operating loss carryforwards, other deferred tax assets and the offsetting valuation allowance associated with certain non-U.S. subsidiaries for the year ended, September 30, 2020. As a result, the Company included an additional $145 million in net operating loss carryforwards, $19 million of other deferred tax assets, and $164 million of valuation allowance for the year ended September 30, 2020, in the Deferred tax assets table above to reflect the correct presentation. The Company had previously reported net operating loss carryforwards of $109 million, other deferred tax assets of $32 million, and a valuation allowance of $317 million at September 30,2020, prior to this correction. This adjustment had no effect on the Company’s previously reported consolidated financial statements including the balance sheet, statement of operations, or cash flows as of and for the year ended September 30, 2020.

The Company assesses the available positive and negative evidence to estimate whether sufficient future taxable income will be generated to permit utilization of the existing deferred tax assets. When performing this assessment, the Company looks to the potential future reversal of existing taxable temporary differences, taxable income in carryback years and the feasibility of tax planning strategies and estimated future taxable income. Failure to achieve operating income targets resulting in a cumulative loss may change the Company’s assessment regarding the realization of Cabot’s deferred tax assets, resulting in valuation allowance being recorded against some or all of the Company’s deferred tax assets. The need for a valuation allowance can also be affected by changes to tax laws, changes to statutory tax rates and changes to future taxable income estimates. A valuation allowance represents management’s best estimate of the non-realizable portion of the deferred tax assets. Any adjustments in a valuation allowance would result in an adjustment to income tax expense.

In determining the recoverability of its U.S. deferred tax assets, the Company considered its cumulative loss incurred over the three-year period ended September 30, 2020. Such objective negative evidence limits the Company’s ability to consider other subjective evidence, such as its projections for future growth. Given the weight of objectively verifiable historical losses from the Company's U.S. operations, the Company recorded a valuation allowance on all of its U.S. deferred tax assets resulting in a charge of $228 million during the fourth quarter of fiscal 2020. The Company has maintained a valuation allowance on all of its US deferred tax assets at September 30, 2021. The Company expects to continue to record a valuation allowance against these assets until sufficient positive evidence exists to support its reversal.

The valuation allowance decreased by $11 million in fiscal 2021 compared to fiscal 2020, primarily due to the expiration of NOLs. The valuation allowance increased in fiscal 2020 compared to fiscal 2019 primarily due to the recording of a valuation allowance charge against all of the Company’s U.S. net deferred tax assets of $228 million as of September 30, 2020.

After the valuation allowance, approximately $26 million of foreign NOLs and less than $1 million of other tax credit carryforwards remained at September 30, 2021. The benefits of these carryforwards are dependent upon taxable income during the carryforward period in the jurisdictions in which they arose.

The following table provides detail surrounding the expiration dates of NOLs and other tax credit carryforwards before valuation allowances:

Years Ending September 30	NOLs	Credits
	(In millions)	
2022 - 2028	$ 229	$ 28
2029 and thereafter	218	88
Indefinite carryforwards	818	2
Total	$ 1,265	$ 118

As of September 30, 2021, provisions have not been made for non-U.S. withholding taxes or other applicable taxes on $1,934 million of undistributed earnings of non-U.S. subsidiaries, as these earnings are considered indefinitely reinvested. It is not practicable to calculate the unrecognized deferred tax liability on undistributed earnings. Cabot continually reviews the financial position and forecasted cash flows of its U.S. consolidated group and foreign subsidiaries in order to reaffirm the Company’s intent and ability to continue to indefinitely reinvest earnings of its foreign subsidiaries or whether such earnings will need to be repatriated in the foreseeable future. Such review encompasses operational needs and future capital investments. From time to time, however, the Company’s intentions relative to specific indefinitely reinvested amounts change because of certain unique circumstances. These earnings could become subject to non-U.S. withholding taxes and other applicable taxes if they were remitted to the U.S.

Cabot has filed its tax returns in accordance with the tax laws in each jurisdiction and recognizes tax benefits for uncertain tax positions when the position would more likely than not be sustained based on its technical merits and recognizes measurement adjustments when needed. As of September 30, 2021, the total amount of unrecognized tax benefits was $21 million, of which $6 million was recorded in Other liabilities in the Consolidated Balance Sheet and $15 million was offset against deferred tax assets. In addition, accruals of $4 million have been recorded for penalties and interest, as of September 30, 2021. Total penalties and interest recorded in the tax provision in the Consolidated Statements of Operations was $1 million in both fiscal 2021 and 2020, and $2 million in 2019. If the unrecognized tax benefits were recognized as of September 30, 2021, there would be $21 million favorable impact on the Company’s tax provision before consideration of the impact of the potential need for valuation allowances.

A reconciliation of the beginning and ending amount of unrecognized tax benefits for fiscal 2021, 2020 and 2019 is as follows:

	Years Ended September 30		
	2021	2020	2019
		(In millions)	
Balance at beginning of the year	$ 23	$ 27	$ 37
Additions based on tax provisions related to the current year	1	2	—
Additions for tax positions of prior years	—	2	—
Reductions of tax provisions of prior years	(2)	(1)	(1)
Reductions related to settlements	—	(5)	(5)
Reductions from lapse of statute of limitations	(1)	(2)	(4)
Balance at end of the year	$ 21	$ 23	$ 27

Cabot and certain subsidiaries are under audit in a number of jurisdictions. In addition, certain statutes of limitations are scheduled to expire in the near future. It is reasonably possible that a further change in the unrecognized tax benefits may occur within the next twelve months related to the settlement of one or more of these audits or the lapse of applicable statutes of limitations; however, an estimated range of the impact on the unrecognized tax benefits cannot be quantified at this time.

Cabot files U.S. federal and state and non-U.S. income tax returns in jurisdictions with varying statutes of limitations. The 2018 through 2020 tax years generally remain subject to examination by the IRS and various tax years from 2005 through 2020 remain subject to examination by the respective state tax authorities. In significant non-U.S. jurisdictions, various tax years from 2005 through 2020 remain subject to examination by their respective tax authorities. As of September 30, 2021, Cabot's significant non-U.S. jurisdictions include Canada, China, France, Germany, Italy, Japan, and the Netherlands.

Note S. Leases

The Company determines if an arrangement is a lease at inception. The Company considers a contract to be or to contain a lease if the contract conveys the right to control the use of identified property, plant, or equipment (an identified asset) for a period of time in exchange for consideration.

A lease liability is recorded at commencement for the net present value of future lease payments over the lease term. The discount rate used is generally the Company's estimated incremental borrowing rate based on credit-adjusted and term-specific discount rates, using a third-party yield curve. An ROU asset is recorded and recognized at commencement at the lease liability amount, including initial direct costs incurred, and is reduced for lease incentives received. The Company's lease terms may include options to extend or terminate the lease when it is reasonably certain that the Company will exercise that option.

In the normal course of its business, the Company enters into various leases as the lessee, primarily related to certain transportation vehicles, warehouse facilities, office space, and machinery and equipment. These leases have remaining lease terms between one and eighteen years, some of which may include options to extend the leases for up to fifteen years or options to terminate the leases. The Company's land leases have remaining lease terms up to sixty-nine years.

Some lease arrangements require variable payments that are dependent on usage, output, or index-based adjustments. The Company does not have material variable lease payments.

The Company has elected not to recognize short-term leases on the balance sheet for all underlying asset classes. Short-term leases are leases that, at the commencement date, have a lease term of twelve months or less and do not include a purchase option that the Company is reasonably certain to exercise. Short-term leases are expensed on a straight-line basis over the lease term.

The components of the Company's lease costs were as follows:

	Years Ended September 30	
	2021	2020
	(In millions)	
Operating lease cost	$ 25	$ 32
Finance lease cost	7	6
Total lease cost	$ 32	$ 38

Included within operating lease costs are short-term lease costs, which were $5 million and $6 million in fiscal 2021 and 2020, respectively, and variable lease costs, which were $1 million in both fiscal 2021 and 2020.

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

	Years Ended September 30	
	2021	2020
	(In millions)	
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	$ 20	$ 25
Operating cash flows from finance leases	2	2
Financing cash flows from finance leases	3	3
Right-of-use assets obtained in exchange for new operating lease liabilities	$ 6	$ 14
Right-of-use assets obtained in exchange for new finance lease liabilities	$ 4	$ 24

Supplemental balance sheet information related to the Company's leases was as follows:

Description	Balance Sheet Classification	September 30, 2021	September 30, 2020
		(In millions)	
Lease ROU assets:			
Operating	Other assets	$ 90	$ 98
Finance	Net property, plant and equipment	44	44
Total lease ROU assets		$ 134	$ 142
Lease liabilities:			
Current:			
Operating	Accounts payable and accrued liabilities	$ 14	$ 15
Finance	Current portion of long-term debt	4	3
Long-term:			
Operating	Other liabilities	84	89
Finance	Long-term debt	29	28
Total lease liabilities		$ 131	$ 135

The following table presents the weighted-average remaining lease term and discount rates for the Company's leases:

Description	September 30, 2021	September 30, 2020
Weighted-average remaining lease term (years):		
Operating leases	17	17
Finance leases	11	12
Weighted-average discount rate:		
Operating leases	2.41%	2.19%
Finance leases	5.76%	4.42%

Future minimum lease payments under non-cancelable operating and finance leases as of September 30, 2021 were as follows:

Years Ended September 30	Operating leases	Finance leases
	(In millions)	
2022	$ 16	$ 5
2023	14	5
2024	11	5
2025	10	4
2026	9	4
2027 and thereafter	57	18
Total lease payments	117	41
Less: imputed interest	19	8
Total	$ 98	$ 33

Note T. Commitments and Contingencies

Other Long-Term Commitments

Cabot has entered into long-term purchase agreements primarily for the purchase of raw materials. Under certain of these agreements, the quantity of material being purchased is fixed, but the price paid changes as market prices change. Raw materials purchased under these agreements were $405 million, $258 million and $466 million during fiscal 2021, 2020 and 2019, respectively. Included in those raw materials purchased are purchases from noncontrolling shareholders of consolidated subsidiaries of $135 million, $81 million and $156 million during fiscal 2021, 2020 and 2019, respectively. Accounts payable and accrued liabilities owed to noncontrolling shareholders as of September 30, 2021 and 2020, were $14 million and $12 million, respectively.

For these purchase commitments, the amounts included in the table below are based on market prices as of September 30, 2021 which may differ from actual market prices at the time of purchase.

	Payments Due by Fiscal Year						
	2022	2023	2024	2025	2026	Thereafter	Total
				(In millions)			
Reinforcement Materials	$ 205	$ 156	$ 155	$ 155	$ 155	$ 1,550	$ 2,376
Performance Chemicals	53	30	31	30	32	236	$ 412
Purification Solutions	2	—	—	—	—	—	2
Total	$ 260	$ 186	$ 186	$ 185	$ 187	$ 1,786	$ 2,790

The Company has also entered into long-term purchase agreements primarily for services related to information technology, which are not included in the table above, that total $7 million as of September 30, 2021, the majority of which is expected to be paid within the next 5 years.

Guarantee Agreements

Cabot has provided certain indemnities pursuant to which it may be required to make payments to an indemnified party in connection with certain transactions and agreements. In connection with certain acquisitions and divestitures, Cabot has provided routine indemnities with respect to such matters as environmental, tax, insurance, product and employee liabilities. In connection with various other agreements, including service and supply agreements with customers, Cabot has provided indemnities for certain contingencies and routine warranties. Cabot is unable to estimate the maximum potential liability for these types of indemnities as a maximum obligation is not explicitly stated in most cases and the amounts, if any, are dependent upon the outcome of future contingent events, the nature and likelihood of which cannot be reasonably estimated. The duration of the indemnities vary, and in many cases are indefinite. Cabot has not recorded any liability for these indemnities in the consolidated financial statements, except as otherwise disclosed.

Self-Insurance and Retention for Certain Contingencies

The Company is partially self-insured for certain third-party liabilities globally, as well as workers' compensation and employee medical benefits in the United States. The third-party and workers' compensation liabilities are managed through a wholly-owned insurance captive and the related liabilities are included in the consolidated financial statements. The employee medical obligations are managed by a third-party provider and the related liabilities are included in the consolidated financial statements. To limit Cabot's potential liabilities for these risks, however, the Company purchases insurance from third-parties that provides stop-loss protection. The self-insured liability in fiscal 2021 for third-party liabilities was $500,000 per accident for auto, $2 million per occurrence for all other, $1 million per accident for U.S. workers' compensation, and the retention for medical costs in the United States is at most $250,000 per person per annum.

Contingencies

Cabot is a defendant, or potentially responsible party, in various lawsuits and environmental proceedings wherein substantial amounts are claimed or at issue.

Environmental Matters

As of September 30, 2021 and 2020, Cabot had $5 million and $7 million, respectively, reserved for environmental matters. These environmental matters mainly relate to former operations. The Company's reserves for environmental matters represent Cabot's best estimates of the probable costs to be incurred at those sites where costs are reasonably estimable based on the Company's analysis of the extent of clean up required, alternative clean-up methods available, abilities of other responsible parties to contribute and its interpretation of laws and regulations applicable to each site. In fiscal 2021 and 2020, there was $1 million and $3 million, respectively, in Accounts payable and accrued liabilities in the Consolidated Balance Sheets for environmental matters. In both fiscal 2021 and 2020, there was $4 million in Other liabilities in the Consolidated Balance Sheets for environmental matters. Cabot reviews the adequacy of the reserves as circumstances change at individual sites and adjusts the reserves as appropriate.

Almost all of Cabot's environmental issues relate to sites that are mature and have been investigated and studied and, in many cases, are subject to agreed upon remediation plans. However, depending on the results of future testing, changes in risk assessment practices, remediation techniques and regulatory requirements, newly discovered conditions, and other factors, it is reasonably possible that the Company could incur additional costs in excess of environmental reserves currently recorded. Management estimates, based on the latest available information, that any such future environmental remediation costs that are reasonably possible to be in excess of amounts already recorded would be immaterial to the Company's consolidated financial statements.

Charges for environmental expense were less than $1 million in fiscal 2021 and $1 million in both fiscal 2020 and fiscal 2019 and are included in Cost of sales in the Consolidated Statements of Operations. Cash payments related to these environmental matters were $2 million in fiscal 2021, $7 million in fiscal 2020 and $2 million in fiscal 2019. The Company anticipates that expenditures related to these environmental matters will be made over a number of years.

The operation and maintenance component of the $5 million reserve for environmental matters was $4 million at September 30, 2021. As of September 30, 2020, the operation and maintenance component of the $7 million reserve for environmental matters was $4 million.

In November 2013, Cabot entered into a Consent Decree with the EPA and the Louisiana Department of Environmental Quality ("LDEQ") regarding Cabot's three carbon black manufacturing facilities in the U.S. This settlement is related to EPA's national enforcement initiative focused on the U.S. carbon black manufacturing sector alleging non-compliance with certain regulatory and permitting requirements under The Clean Air Act, including the New Source Review ("NSR") construction permitting requirements. Pursuant to this settlement, Cabot is in the process of installing technology controls for the reduction of sulfur dioxide and nitrogen oxide emissions at these plants.

Respirator Liabilities

Cabot has exposure in connection with a safety respiratory products business that a subsidiary acquired from American Optical Corporation ("AO") in an April 1990 asset purchase transaction. The subsidiary manufactured respirators under the AO brand and disposed of that business in July 1995. In connection with its acquisition of the business, the subsidiary agreed, in certain circumstances, to assume a portion of AO's liabilities, including costs of legal fees together with amounts paid in settlements and judgments, allocable to AO respiratory products used prior to the 1990 purchase by the Cabot subsidiary. In exchange for the subsidiary's assumption of certain of AO's respirator liabilities, AO agreed to provide to the subsidiary the benefits of: (i) AO's insurance coverage for the period prior to the 1990 acquisition and (ii) a former owner's indemnity of AO holding it harmless from any liability allocable to AO respiratory products used prior to May 1982.

Generally, these respirator liabilities involve claims for personal injury, including asbestosis, silicosis and coal worker's pneumoconiosis ("CWP"), allegedly resulting from the use of respirators that are alleged to have been negligently designed and/or labeled. At no time did this respiratory product line represent a significant portion of the respirator market.

The subsidiary transferred the business to Aearo Corporation ("Aearo") in July 1995. Cabot agreed to have the subsidiary retain certain liabilities associated with exposure to asbestos and silica while using respirators prior to the 1995 transaction so long as Aearo paid, and continues to pay, Cabot an annual fee of $400,000. Aearo can discontinue payment of the fee at any time, in which case it will assume the responsibility for and indemnify Cabot against those liabilities which Cabot's subsidiary had agreed to retain. The Company anticipates that it will continue to receive payment of the $400,000 fee from Aearo and thereby retain these liabilities for the foreseeable future. Cabot has no liability in connection with any products manufactured by Aearo after 1995.

In addition to Cabot's subsidiary and as described above, other parties are responsible for significant portions of the costs of respirator liabilities, leaving Cabot's subsidiary with a portion of the liability in only some of the pending cases. These parties include Aearo, AO, AO's insurers, another former owner and its insurers and a third-party manufacturer of respirators formerly sold under the AO brand and its insurers (collectively, with the Company's subsidiary, the "Payor Group").

Cabot has contributed to the Payor Group's defense and settlement costs with respect to a percentage of pending claims depending on several factors, including the period of alleged product use. In order to quantify Cabot's estimated share of liability for pending and future respirator liability claims, Cabot has engaged, through counsel, the assistance of Gnarus Advisors, LLC ("Gnarus"), a consulting firm in the field of tort liability valuation. The methodology used to estimate the liability addresses the complexities surrounding Cabot's potential liability by making assumptions about Cabot's likely exposure based on various factors, including the Payor Group's historical experience with these claims, the number of future claims and the cost to resolve pending and future claims. Using those and other assumptions, the Company estimates the costs that would be incurred in defending and resolving both currently pending and future claims.

In fiscal 2021, the Company recorded a charge of $25 million related to the respirator liability which was included in Selling and administrative expense in the Consolidated Statements of Operations. The charge is primarily due to an increase in the number of CWP claims filed in 2021. As of September 30, 2021 and 2020, the Company had $44 million and $24 million, respectively, reserved for its estimated share of liability for pending and future respirator claims, the majority of which the Company expects to incur over the next ten years. The reserve is included in Other liabilities and Accounts payable and accrued liabilities on the Consolidated Balance Sheets.

In fiscal 2020 and fiscal 2019, the Company recorded charges of $53 million and $20 million, respectively related to the respirator liability which was included in Selling and administrative expenses in the Consolidated Statements of Operations. Approximately $50 million of the fiscal 2020 charge related to a February 2020 settlement agreement in which Cabot, with certain members of the Payor Group, resolved a large group of claims, including claims alleging serious injury, brought by coal workers in Kentucky and West Virginia represented by common legal counsel. The Company's share of the liability for this settlement was $65.2 million.

The Company made payments related to its respirator liability of $37 million in both fiscal 2021 and fiscal 2020 and $10 million in fiscal 2019. The majority of the payments in fiscal 2021 and fiscal 2020 relate to the settlement noted above.

The Company's current estimate of the cost of its share of existing and future respirator liability claims is based on facts and circumstances existing at this time, including the number and nature of the remaining claims. Developments that could affect the Company's estimate include, but are not limited to, (i) significant changes in the number of future claims, (ii) changes in the rate of dismissals without payment of pending claims, (iii) significant changes in the average cost of resolving claims, including potential settlements of groups of claims, (iv) significant changes in the legal costs of defending these claims, (v) changes in the nature of claims received or changes in our assessment of the viability of these claims, (vi) trial and appellate outcomes, (vii) changes in the law and procedure applicable to these claims, (viii) the financial viability of the parties that contribute to the payment of respirator claims, (ix) exhaustion or changes in the recoverability of the insurance coverage maintained by certain members of the Payor Group, or a change in the availability of the indemnity provided by a former owner of AO, (x) changes in the allocation of costs among the various parties paying legal and settlement costs, and (xi) a determination that the assumptions that were used to estimate Cabot's share of liability are no longer reasonable. The Company cannot determine the impact of these potential developments on its current estimate of its share of liability for existing and future claims. Because reserves are limited to amounts that are probable and estimable as of a relevant measurement date, and there is inherent difficulty in projecting the impact of potential developments on Cabot's share of liability for these existing and future claims, it is reasonably possible that the liabilities for existing and future claims could change in the near term and that change could be material.

Value-added Tax ("VAT") Matter

The Company has received assessments from a non-U.S. taxing authority for VAT related to certain sales made and services provided by certain of the Company's subsidiaries from 2014 through 2019. The Company believes these transactions are exempt from VAT and has filed legal actions challenging the taxing authority's application of VAT to them. Hearings on these matters are ongoing and it could potentially be a number of years before they are resolved. The Company believes its interpretation of these VAT rules is appropriate, and that it will be successful in its challenge against the taxing authority's assessments. Accordingly, the Company does not believe it is probable that it will incur a loss related to these matters. However, the interpretation and application of these VAT rules is an unsettled issue, and the resolution of tax and regulatory matters is unpredictable. If it is determined in these proceedings that VAT applies to some or all of these various transactions, the Company could incur a charge that ranges between nil and $37 million for these matters, with the amount impacted by any interest and penalties associated with these matters and the amount, if any, of VAT the Company might subsequently recover from its customers.

Brazil Indirect Tax Settlements

The Company previously filed claims with the Brazilian tax authorities challenging the calculation of certain indirect taxes related to local social contributions for the years 2012 through 2019. During the third quarter of fiscal 2021, the Brazilian Federal Supreme Court rendered a final unappealable decision that clarified the methodology companies should use in the calculation. As a result of this decision, the Company is entitled to recover credits and associated interest related to the historical periods for overpayment of these indirect taxes to be used to offset future Brazilian tax liabilities. As such, the Company recorded a $12 million benefit during fiscal 2021 of which $9 million, related to the credit recovery was included in Net sales and other operating revenues and $3 million, related to interest income was included in Other income (expense) in the Consolidated Statement of Operations.

Other Matters

The Company has various other lawsuits, claims and contingent liabilities arising in the ordinary course of its business and with respect to its divested businesses. The Company does not believe that any of these matters will have a material adverse effect on its financial position; however, litigation is inherently unpredictable. Cabot could incur judgments, enter into settlements or revise its expectations regarding the outcome of certain matters, and such developments could have a material impact on its results of operations in the period in which the amounts are accrued or its cash flows in the period in which the amounts are paid.

Note U. Financial Information by Segment & Geographic Area

Segment Information

The Company identifies a business as an operating segment if: i) it engages in business activities from which it may earn revenues and incur expenses; ii) its operating results are regularly reviewed by the Chief Operating Decision Maker ("CODM"), who is Cabot's President and Chief Executive Officer, to make decisions about resources to be allocated to the segment and assess its performance; and iii) it has available discrete financial information. The Company has determined that all of its businesses are operating segments. The CODM reviews financial information at the operating segment level to allocate resources and to assess the operating results and financial performance for each operating segment. Operating segments are aggregated into a reportable segment if the operating segments are determined to have similar economic characteristics and if the operating segments are similar in the following areas: i) nature of products and services; ii) nature of production processes; iii) type or class of customer for their products and services; iv) methods used to distribute the products or provide services; and v) if applicable, the nature of the regulatory environment.

The Company has three reportable segments: Reinforcement Materials, Performance Chemicals and Purification Solutions. The Company's former Specialty Fluids business was a separate reporting segment prior to divestiture in the third quarter of fiscal 2019. On November 25, 2021, the Company entered into an agreement to sell the Purification Solutions business, subject to the satisfaction or waiver of the conditions set forth in the agreement. The Company expects to close the transaction in the second quarter of fiscal 2022, and upon consummation of this transaction the Company will be organized into two reportable segments.

The Reinforcement Materials segment combines the reinforcing carbons and engineered elastomer composites product lines.

The Performance Chemicals segment combines the specialty carbons, fumed metal oxides and aerogel product lines into the Performance Additives business, and combines the specialty compounds and inkjet colorants product lines into the Formulated Solutions business. These businesses are similar in terms of economic characteristics, nature of products, processes, customer class and product distribution methods, and therefore have been aggregated into one reportable segment.

The Purification Solutions segment represents the Company's activated carbon business.

Income (loss) from continuing operations before income taxes ("Segment EBIT") is presented for each reportable segment in the financial information by the reportable segment table below on the line entitled Income (loss) from continuing operations before taxes. Segment EBIT excludes certain items, meaning items management does not consider representative of on-going operating segment results. In addition, Segment EBIT includes Equity in earnings of affiliated companies, net of tax, the full operating results of a contractual joint venture in Purification Solutions, royalties, Net income (loss) attributable to noncontrolling interests, net of tax, and discounting charges for certain Notes receivable, but excludes Interest expense, foreign currency transaction gains and losses, interest income, dividend income, unearned revenue, general unallocated expense and unallocated corporate costs. Segment assets exclude cash, short-term investments, cost investments, income taxes receivable, deferred taxes and headquarters' assets, which are included in unallocated and other. Expenditures for additions to long-lived assets include total equity and other investments (including available-for-sale securities) and property, plant and equipment.

Reinforcement Materials

Carbon black is a form of elemental carbon that is manufactured in a highly controlled process to produce particles and aggregates of varied structure and surface chemistry, resulting in many different performance characteristics for a wide variety of applications. Reinforcing carbons (a class of carbon blacks manufactured by Cabot) are used to enhance the physical properties of the systems and applications in which they are incorporated.

The Company's reinforcing carbons products are used in tires and industrial products. Reinforcing carbons have traditionally been used in the tire industry as a rubber reinforcing agent to increase tread durability and are also used as a performance additive to reduce rolling resistance and improve traction. In industrial products such as hoses, belts, extruded profiles and molded goods, reinforcing carbons are used to improve the physical performance of the product, including the product's physical strength, fluid resistance, conductivity and resistivity.

In addition to its reinforcing carbons products, the Company manufactures engineered elastomer composites ("E2C™") solutions that are composites of reinforcing carbons and rubber made using the Company's patented elastomer composites manufacturing process. These composites improve abrasion/wear resistance, reduce fatigue of rubber parts and reduce rolling resistance compared to reinforcing carbons/rubber compounds made entirely by conventional rubber mix methods enabling rubber product manufacturers to reduce the need to make performance trade-offs.

Performance Chemicals

Performance Chemicals is organized into two businesses: the Company's Performance Additives business and its Formulated Solutions business. The Company's Performance Additives business combines its specialty carbons, including battery materials, fumed metal oxides and aerogel product lines, and its Formulated Solutions business combines its specialty compounds and inkjet product lines. In Performance Chemicals, the Company designs, manufactures and sells materials that deliver performance in a broad range of customer applications across the automotive, construction, infrastructure, inkjet printing, electronics, and consumer products sectors, and applications related to generation, transmission and storage of energy. The Company's focus areas for growth include carbon additives and other materials for battery applications, inkjet dispersions for post print corrugated packaging applications, and conductive compounds and concentrates for various plastics applications.

The net sales from each of these businesses for fiscal 2021, 2020 and 2019 are as follows:

	Years Ended September 30		
	2021	2020	2019
		(In millions)	
Performance Additives	$ 796	$ 645	$ 694
Formulated Solutions	352	288	301
Total Performance Chemicals	$ 1,148	$ 933	$ 995

Performance Additives Business

The Company's specialty carbons are used to impart color, provide rheology control, enhance conductivity and static charge control, provide UV protection, enhance mechanical properties, and provide formulation flexibility through surface treatment. These specialty carbon products are used in a wide variety of applications, such as inks, coatings, cables, plastics, adhesives, toners, batteries and displays.

Fumed silica is an ultra-fine, high-purity particle used as a reinforcing, thickening, abrasive, thixotropic, suspending or anti-caking agent in a wide variety of products for the automotive, construction, microelectronics, batteries, and consumer products industries. These products include adhesives, sealants, cosmetics, batteries, inks, toners, silicone elastomers, coatings, polishing slurries and pharmaceuticals. Fumed alumina, also an ultra-fine, high-purity particle, is used as an abrasive, absorbent or barrier agent in a variety of products, such as inkjet media, lighting, coatings, cosmetics and polishing slurries.

Aerogel is a hydrophobic, silica-based particle with a high surface area that is used in a variety of thermal insulation and specialty chemical applications. In the building and construction industry, the product is used in insulative sprayable plasters and composite building products, as well as translucent skylight, window, wall and roof systems for insulating eco-daylighting applications. In the specialty chemicals industry, the product is used to provide matte finishing, insulating and thickening properties for use in a variety of applications.

Formulated Solutions Business

Cabot's masterbatch and conductive compound products, which Cabot refers to as "specialty compounds", are formulations derived from specialty carbons mixed with polymers and other additives. These products are generally used by plastic resin producers and converters in applications for the automotive, industrial, packaging, infrastructure, agricultural, consumer products, and electronics industries. As an alternative to directly mixing specialty carbon blacks, these formulations offer greater ease of handling and help customers achieve their desired levels of dispersion and color and manage the addition of small doses of additives. In addition, Cabot's electrically conductive compound products generally are used to help ensure uniform conductive performance and reduce risks associated with electrostatic discharge in plastics applications.

The Company's inkjet colorants are high-quality pigment-based black and color dispersions and inks. The Company's dispersions are based on patented pigment surface modification technology and polymer encapsulation technology. The dispersions are used in aqueous inkjet inks to impart color, sharp print characteristics and durability, while maintaining high printhead reliability. These products are used in various inkjet printing applications, including traditional work-from-home and corporate office settings, and, increasingly, in commercial and corrugated packaging printing, that all require a high level of dispersibility and colloidal stability. Our inkjet inks, which utilize our pigment-based colorant dispersions, are used in the commercial printing segment for digital print.

Purification Solutions

The Company's activated carbon products are used for the purification of water, air, food and beverages, pharmaceuticals and other liquids and gases, as either a colorant or a decolorizing agent in the production of products for food and beverage applications and as a chemical carrier in slow release applications. In gas and air applications, one of the uses of activated carbon is for the removal of mercury in flue gas streams. In certain applications, used activated carbon can be reactivated for further use by removing the contaminants from the pores of the activated carbon product. The most common applications for the Company's reactivated carbon are water treatment and food and beverage purification. In addition to activated carbon production and reactivation, the Company also provides activated carbon solutions through on-site equipment and services, including delivery systems for activated carbon injection in coal-fired utilities, mobile water filter units and carbon reactivation services.

Specialty Fluids

Cabot divested its Specialty Fluids business on June 28, 2019. Refer to Note D for the terms of this transaction. The Specialty Fluids segment produced and marketed a range of cesium products that included cesium formate brines and other fine cesium chemicals.

Financial information by reportable segment is as follows:

Years Ended September 30	Reinforcement Materials	Performance Chemicals	Purification Solutions	Specialty Fluids	Segment Total[1]	Unallocated and Other[2], [4]	Consolidated Total
				(In millions)			
2021							
Revenues from external customers[3]	$ 1,781	$ 1,148	$ 257	$ —	$ 3,186	$ 223	$ 3,409
Depreciation and amortization	$ 70	$ 73	$ 16	$ —	$ 159	$ 1	$ 160
Equity in earnings of affiliated companies	$ —	$ 2	$ 2	$ —	$ 4	$ (1)	$ 3
Income (loss) from continuing operations before income taxes[4]	$ 329	$ 211	$ 10	$ —	$ 550	$ (144)	$ 406
Assets[5]	$ 1,421	$ 1,325	$ 283	$ —	$ 3,029	$ 277	$ 3,306
Total expenditures for additions to long-lived assets[6]	$ 104	$ 80	$ 9	$ —	$ 193	$ 5	$ 198
2020							
Revenues from external customers[3]	$ 1,256	$ 933	$ 253	$ —	$ 2,442	$ 172	$ 2,614
Depreciation and amortization	$ 68	$ 64	$ 24	$ —	$ 156	$ 2	$ 158
Equity in earnings of affiliated companies	$ —	$ 1	$ 3	$ —	$ 4	$ (1)	$ 3
Income (loss) from continuing operations before income taxes[4]	$ 162	$ 118	$ 3	$ —	$ 283	$ (316)	$ (33)
Assets[5]	$ 1,077	$ 1,145	$ 296	$ —	$ 2,518	$ 263	$ 2,781
Total expenditures for additions to long-lived assets[6]	$ 66	$ 92	$ 8	$ —	$ 166	$ 3	$ 169
2019							
Revenues from external customers[3]	$ 1,815	$ 995	$ 278	$ 56	$ 3,144	$ 193	$ 3,337
Depreciation and amortization	$ 69	$ 51	$ 26	$ 1	$ 147	$ 1	$ 148
Equity in earnings of affiliated companies	$ (1)	$ 1	$ 3	$ —	$ 3	$ (2)	$ 1
Income (loss) from continuing operations before income taxes[4]	$ 266	$ 152	$ 2	$ 24	$ 444	$ (189)	$ 255
Assets[5]	$ 1,177	$ 1,024	$ 436	$ —	$ 2,637	$ 367	$ 3,004
Total expenditures for additions to long-lived assets[6]	$ 82	$ 148	$ 11	$ 1	$ 242	$ 5	$ 247

(1) Cabot divested its Specialty Fluids business on June 28, 2019. Refer to Note D for the terms of this transaction.

(2) Unallocated and Other includes certain items and eliminations necessary to reflect management's reporting of operating segment results. These items are reflective of the segment reporting presented to the CODM.

(3) Consolidated Total Revenues from external customers reconciles to Net sales and other operating revenues on the Consolidated Statements of Operations. Revenues from external customers that are categorized as Unallocated and Other reflects royalties, external shipping and handling fees, the impact of unearned revenue, the removal of 100% of the sales of an equity method affiliate, discounting charges for certain Notes receivable, and indirect tax settlement credits. Details are provided in the table below.

	Years Ended September 30		
	2021	2020	2019
		(In millions)	
Shipping and handling fees	$ 153	$ 113	$ 130
By-product sales	73	62	76
Other	(3)	(3)	(13)
Total	$ 223	$ 172	$ 193

(4) Consolidated Total Income (loss) from continuing operations before income taxes reconciles to Income (loss) from continuing operations before income taxes and equity in earnings of affiliated companies on the Consolidated Statements of Operations. Total Income (loss) from continuing operations before income taxes that are categorized as Unallocated and Other includes:

	Years Ended September 30		
	2021	2020	2019
		(In millions)	
Interest expense	$ (49)	$ (53)	$ (59)
Certain items:[a]			
Indirect tax settlement credits	$ 12	$ 3	$ -
Legal and environmental matters and reserves (Note T)	(25)	(54)	(21)
Global restructuring activities (Note O)	(11)	(19)	(16)
Acquisition and integration-related charges (Note C)	(5)	(5)	(6)
Employee benefit plan settlement and other charges (Note M)	(4)	(10)	1
Marshall Mine loss on sale and asset impairment charge (Note D)	—	(129)	—
Inventory reserve adjustment	—	(2)	—
Specialty Fluids loss on sale and asset impairment charge (Note D)	—	(1)	(29)
Equity affiliate investment impairment charge	—	—	(11)
Executive transition costs	—	—	(1)
Other certain items	(1)	(1)	(4)
Total certain items, pre-tax	(34)	(218)	(87)
Unallocated corporate costs[b]	(58)	(41)	(50)
General unallocated income (expense)[c]	—	(1)	8
Less: Equity in earnings of affiliated companies, net of tax[d]	3	3	1
Total	$ (144)	$ (316)	$ (189)

(a) Certain items are items that management does not consider representative of operating segment results and they are, therefore, excluded from Segment EBIT.

(b) Unallocated corporate costs are not controlled by the segments and primarily benefit corporate interests.

(c) General unallocated income (expense) consists of gains (losses) arising from foreign currency transactions, net of other foreign currency risk management activities, interest income, dividend income, the profit or loss related to the corporate adjustment for unearned revenue, and the impact of including the full operating results of a contractual joint venture in Purification Solutions Segment EBIT.

(d) Equity in earnings of affiliated companies, net of tax is included in Segment EBIT and is removed from Unallocated and other to reconcile to income (loss) from operations before taxes.

(5) Unallocated and Other assets includes cash, marketable securities, cost investments, income taxes receivable, deferred taxes, headquarters' assets, and current and non-current assets held for sale.

(6) Expenditures for additions to long-lived assets include total equity and other investments (including available-for-sale securities) and property, plant and equipment.

Geographic Information

Revenues from external customers attributable to an individual country, other than the U.S. and China, were not material for disclosure. Revenues from external customers by individual country are summarized as follows:

	Years Ended September 30		
	2021	2020	2019
		(In millions)	
United States	$ 668	$ 581	$ 702
China	858	598	738
Other countries	1,883	1,435	1,897
Total	$ 3,409	$ 2,614	$ 3,337

Each of the Company's segments operate globally. In addition to presenting Revenue from external customers by reportable segment, the following tables further disaggregate Revenue from external customers by geographic region.

	Year Ended September 30, 2021			
	Reinforcement Materials	Performance Chemicals	Purification Solutions	Consolidated Total
	(In millions)			
Americas	$ 699	$ 310	$ 110	$ 1,119
Asia Pacific	745	485	34	1,264
Europe, Middle East and Africa	337	353	113	803
Segment revenues from external customers	1,781	1,148	257	3,186
Unallocated and other				223
Net sales and other operating revenues				$ 3,409

	Year Ended September 30, 2020				
	Reinforcement Materials	Performance Chemicals	Purification Solutions	Specialty Fluids	Consolidated Total
	(In millions)				
Americas	$ 490	$ 266	$ 112	$ —	$ 868
Asia Pacific	529	368	34	—	931
Europe, Middle East and Africa	237	299	107	—	643
Segment revenues from external customers	1,256	933	253	—	2,442
Unallocated and other					172
Net sales and other operating revenues					$ 2,614

	Year Ended September 30, 2019				
	Reinforcement Materials	Performance Chemicals	Purification Solutions	Specialty Fluids	Consolidated Total
	(In millions)				
Americas	$ 688	$ 294	$ 126	$ 6	$ 1,114
Asia Pacific	769	353	35	1	1,158
Europe, Middle East and Africa	358	348	117	49	872
Segment revenues from external customers	1,815	995	278	56	3,144
Unallocated and other					193
Net sales and other operating revenues					$ 3,337

Property, plant and equipment attributable to an individual country, other than the U.S. and China, were not material for disclosure. Property, plant and equipment information by individual country is summarized as follows:

	Years Ended September 30	
	2021	2020
	(In millions)	
United States	$ 513	$ 493
China	333	295
Other countries	530	526
Total	$ 1,376	$ 1,314

Note V. Subsequent Events

Acquisition of Tokai Manufacturing Facility

On November 15, 2021, Cabot entered into an agreement with Tokai Carbon Group to purchase its carbon black manufacturing facility in Tianjin, China for approximately $9 million, which is subject to customary closing adjustments and is expected to close in the second quarter of fiscal 2022.

Sale of Purification Solutions Business

On November 25, 2021 Cabot and an affiliate of funds advised by One Equity Partners (“OEP”) entered into a Share Purchase Agreement (the “Agreement”) for the sale of Cabot’s Purification Solutions business (the “Business”), subject to the satisfaction or waiver of the conditions set forth in the Agreement.

Under the terms of the Agreement, OEP will acquire the Business on a cash-free and debt-free basis in a transaction valued at approximately $111 million, subject to certain debt-like and other closing adjustments, including a customary working capital adjustment and costs related to the closure of the Business’s former lignite mine as disclosed in Note D. The net cash proceeds from the transaction are expected to be approximately $80 million and are to be paid when the transaction is closed. The transaction is expected to close in the second quarter of fiscal 2022.

The Company will begin to account for the assets and liabilities of the Business as held for sale for the quarter ending December 31, 2021. Based on the carrying value of the Business as of September 30, 2021 and an estimate of the net cash proceeds from the sale, Cabot estimates a pre-tax impairment charge in the range of $155 million to $165 million to be recorded in the first quarter of fiscal 2022.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the Board of Directors of Cabot Corporation

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Cabot Corporation and subsidiaries (the "Company") as of September 30, 2021 and 2020, the related consolidated statements of operations, comprehensive income, stockholders' equity, and cash flows, for each of the three years in the period ended September 30, 2021, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of September 30, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended September 30, 2021, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of September 30, 2021, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated November 29, 2021, expressed an unqualified opinion on the Company's internal control over financial reporting.

Basis for Opinion

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

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the 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 financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

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

Commitments and Contingencies — Respirator Liabilities — Refer to Note T to the consolidated financial statements

Critical Audit Matter Description

The Company has exposure in connection with a safety respiratory products business previously owned by one of its subsidiaries. The Company has a $44 million reserve as of September 30, 2021 for respirator liabilities. The respirator liabilities are estimated based on management’s assumptions, which include the number of future claims and the estimated cost to resolve pending and future claims.

We identified respirator liabilities related to coal worker’s pneumoconiosis (“CWP”) as a critical audit matter because there is significant uncertainty related to the number of future claims and the estimate of the cost to resolve pending and future claims. This required a high degree of auditor judgment and an increased extent of effort, including the need to involve our actuarial specialists, when performing audit procedures to evaluate the reasonableness of the recorded CWP respirator liabilities as of September 30, 2021.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to CWP respirator liabilities included the following, among others:

- We tested the effectiveness of controls over management’s review of the work performed by the Company’s tort liability consultants, the assumptions utilized, claims data, and the calculation of the respirator liabilities.

- We evaluated the methods and assumptions used by management to estimate the CWP respirator liabilities by:

  - Utilizing our actuarial specialists to assist with testing the assumptions regarding future claims and the cost to resolve pending and future claims.

  - Utilizing our actuarial specialists to assist with the calculation of an independent estimate of the CWP respirator liabilities and comparing our estimate to the Company’s estimate.

- We assessed the appropriateness of the disclosures in the financial statements.

/s/ Deloitte & Touche LLP

Boston, Massachusetts
November 29, 2021

We have served as the Company's auditor since 2007.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the Board of Directors of Cabot Corporation

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Cabot Corporation and subsidiaries (the "Company") as of September 30, 2021, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of September 30, 2021, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended September 30, 2021, of the Company and our report dated November 29, 2021, expressed an unqualified opinion on those financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying *Management's Annual Report on Internal Control Over Financial Reporting*. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the 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 audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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

/s/ Deloitte & Touche LLP

Boston, Massachusetts
November 29, 2021

PART II

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

None.

Item 9A. ***Controls and Procedures***

Disclosure Controls and Procedures

Cabot carried out an evaluation, under the supervision and with the participation of its management, including its principal executive officer and its principal financial officer, of the effectiveness of the Company's disclosure controls and procedures pursuant to Rule 13a-15 under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), as of September 30, 2021. Based on that evaluation, Cabot's principal executive officer and its principal financial officer concluded that the Company's disclosure controls and procedures are effective with respect to the recording, processing, summarizing and reporting, within the time periods specified in the Securities and Exchange Commission's rules and forms, of information required to be disclosed by the Company in the reports that it files or submits under the Exchange Act and such information is accumulated and communicated to management to allow timely decisions regarding required disclosure.

Management's Annual Report on Internal Control Over Financial Reporting

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

- Pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the company;
- 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
- 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 the 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 policies or procedures may deteriorate.

Cabot's management assessed the effectiveness of Cabot's internal control over financial reporting as of September 30, 2021 based on the framework established in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this assessment, Cabot's management concluded that Cabot's internal control over financial reporting was effective as of September 30, 2021.

Cabot's internal control over financial reporting as of September 30, 2021 has been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report above.

Changes in Internal Control Over Financial Reporting

There were no changes in the Company's internal control over financial reporting that occurred during the Company's fiscal quarter ending September 30, 2021 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting. As a result of the COVID-19 pandemic, certain of our employees have been working remotely and certain manufacturing sites have been operating with limited personnel on-site. We have not identified any material changes in our internal control over financial reporting as a result of these changes to the working environment. We are continually monitoring and assessing the COVID-19 situation to determine any potential impacts on the design and operating effectiveness of our internal controls over financial reporting.

Item 9B. ***Other Information***

On November 25, 2021 Cabot and an affiliate of funds advised by One Equity Partners ("OEP") entered into a Share Purchase Agreement (the "Agreement") for the sale of Cabot's Purification Solutions business (the "Business"), subject to the satisfaction or waiver of the conditions set forth in the Agreement.

Under the terms of the Agreement, OEP will acquire the Business on a cash-free and debt-free basis in a transaction valued at approximately $111 million, subject to certain debt-like and other closing adjustments, including a customary working capital adjustment and costs related to the closure of the Business's former lignite mine as disclosed in Note D. The net cash proceeds from the transaction are expected to be approximately $80 million and are to be paid when the transaction is closed. The transaction is expected to close in the second quarter of fiscal 2022.

The Company will begin to account for the assets and liabilities of the Business as held for sale for the quarter ending December 31, 2021. Based on the carrying value of the Business as of September 30, 2021 and an estimate of the net cash proceeds from the sale, Cabot estimates a pre-tax impairment charge in the range of $155 million to $165 million to be recorded in the first quarter of fiscal 2022.

PART III

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

Certain information regarding our executive officers is included at the end of Part I of this annual report under the heading "Information about our Executive Officers."

Cabot has adopted a Code of Business Ethics that applies to all of the Company's employees and directors, including the Chief Executive Officer, the Chief Financial Officer, the Controller and other senior financial officers. The Code of Business Ethics is posted on our website, www.cabotcorp.com (under the "About Cabot" caption under "Company"). We intend to satisfy the disclosure requirement regarding any amendment to, or waiver of, a provision of the Code of Business Ethics applicable to the Chief Executive Officer, the Chief Financial Officer, the Controller or other senior financial officers by posting such information on our website.

The other information required by this item will be included in our Proxy Statement for the 2022 Annual Meeting of Stockholders ("Proxy Statement") and is herein incorporated by reference.

Item 11. *Executive Compensation*

The information required by this item will be included in our Proxy Statement and is incorporated herein by reference.

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

The information relating to security ownership of certain beneficial owners of our common stock and information relating to the security ownership of our management required by this item will be included in our Proxy Statement and is incorporated herein by reference.

The following table provides information as of September 30, 2021 about: (i) the number of shares of common stock that may be issued upon exercise of outstanding options and vesting of restricted stock units; (ii) the weighted-average exercise price of outstanding options; and (iii) the number of shares of common stock available for future issuance under our active plans: the Amended and Restated 2017 Long-Term Incentive Plan and the 2015 Directors' Stock Compensation Plan. All of our equity compensation plans have been approved by our stockholders.

Plan category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)[1]	Weighted-average exercise price of outstanding option, warrants and rights (b)[2]	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c)[3]
Equity compensation plans approved by security holders	2,479,206	$ 48.36	5,529,715
Equity compensation plans not approved by security holders	N/A	N/A	N/A

(1) Includes (i) 1,476,408 shares issuable upon exercise of outstanding stock options, (ii) 474,450 shares issuable upon vesting of time-based restricted stock units, (iii) 241,848 shares issuable upon vesting of performance-based restricted stock units based upon the achievement of the annual financial performance metrics for the three years within the three-year performance period of the fiscal 2019 awards, the first two years within the three-year performance period of the fiscal 2020 awards, and the first year within the three-year performance period of the fiscal 2021 awards; and (iv) 286,500 shares issuable upon vesting of the performance-based stock units attributable to year three of the 2020 awards and years two and three of the 2021 awards, assuming Cabot performs at the maximum performance level in each of those years. If, instead, Cabot performs at the target level of performance in those years, a total of 143,250 shares would be issuable for year three of the 2020 awards and years two and three of the 2021 awards.

(2) The weighted-average exercise price includes all outstanding stock options but does not include restricted stock units which do not have an exercise price.

(3) Of these shares, (i) 5,315,424 shares remain available for future issuance under the Amended and Restated 2017 Long-Term Incentive Plan, and (ii) 214,291 remain available for future issuance under the 2015 Directors' Stock Compensation Plan.

The other information required by this item will be included in our Proxy Statement and is incorporated herein by reference.

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

The information required by this item will be included in our Proxy Statement and is incorporated herein by reference.

Item 14. *Principal Accounting Fees and Services*

The information required by this item will be included in our Proxy Statement and is incorporated herein by reference.

PART IV

Item 15. ***Exhibits, Financial Statement Schedules***

(a) *Financial Statements*.

See "Index to Financial Statements" under Item 8 of this Form 10-K.

(b) *Schedules*.

The Schedules have been omitted since the required information is not applicable or is not present in amounts sufficient to require submission of the schedule, or because the information required is included in the consolidated financial statements and notes thereto included in this Form 10-K.

(c) *Exhibits*. (Certain exhibits not included in copies of the Form 10-K sent to stockholders.)

The exhibit numbers in the Exhibit Index correspond to the numbers assigned to such exhibits in the Exhibit Table of Item 601 of Regulation S-K. Cabot will furnish to any stockholder, upon written request, any exhibit listed in the Exhibit Index, upon payment by such stockholder of the Company's reasonable expenses in furnishing such exhibit.

Exhibit Number	Description
3(a)	Restated Certificate of Incorporation of Cabot Corporation effective January 9, 2009 (incorporated herein by reference to Exhibit 3.1 of Cabot's Quarterly Report on Form 10-Q for the quarterly period ended December 31, 2008, file reference 1-5667, filed with the SEC on February 9, 2009).
3(b)	The By-laws of Cabot Corporation as amended January 7, 2021 (incorporated herein by reference to Exhibit 3.1 of Cabot's Corporation's Current Report on Form 8-K, file reference 1-5667, filed with the SEC on January 12, 2021).
4(a)	Indenture, dated as of December 1, 1987, between Cabot Corporation and The First National Bank of Boston, Trustee (the "Indenture"). (incorporated herein by reference to Exhibit 4(a)(i) of Cabot's Annual Report on Form 10-K for its fiscal year ended September 30, 2017, file reference 1-5667, filed with the SEC on November 22, 2017).
4(a)(i)	First Supplemental Indenture, dated as of June 17, 1992, to the Indenture. (incorporated herein by reference to Exhibit 4(a)(ii) of Cabot's Annual Report on Form 10-K for its fiscal year ended September 30, 2017, file reference 1-5667, filed with the SEC on November 22, 2017).
4(a)(ii)	Second Supplemental Indenture, dated as of January 31, 1997, between Cabot Corporation and State Street Bank and Trust Company, Trustee (incorporated herein by reference to Exhibit 4 of Cabot's Quarterly Report on Form 10-Q for the quarterly period ended December 31, 1996, file reference 1-5667, filed with the SEC on February 14, 1997).
4(a)(iii)	Third Supplemental Indenture, dated as of November 20, 1998, between Cabot Corporation and State Street Bank and Trust Company, Trustee (incorporated herein by reference to Exhibit 4.1 of Cabot's Current Report on Form 8-K, dated November 20, 1998, file reference 1-5667, filed with the SEC on November 20, 1998).
4(a)(iv)	Indenture, dated as of September 21, 2009, between Cabot Corporation and U.S. Bank National Association, as Trustee (incorporated herein by reference to Exhibit 4.1 of Cabot's Registration Statement on Form S-3 ASR, Registration Statement No. 333-162021, filed with the SEC on September 21, 2009).
4(a)(v)	Second Supplemental Indenture, dated as of July 12, 2012 between Cabot Corporation, as Issuer, and U.S. Bank National Association, as Trustee, including the form of Global Note attached as Annex A thereto, supplementing the Indenture dated as of September 21, 2009 (incorporated herein by reference to Exhibit 4.1 of Cabot's Current Report on Form 8-K dated July 9, 2012, file reference 1-5667, filed with the SEC on July 12, 2012).
4(a)(vi)	Indenture, dated as of September 15, 2016, between Cabot Corporation and U.S. Bank National Association, as Trustee (incorporated herein by reference to Exhibit 4.1 of Cabot Corporation's Current Report on Form 8-K dated September 15, 2016, file reference 1-5667, filed with the SEC on September 15, 2016).

Exhibit Number	Description
4(a)(vii)	First Supplemental Indenture, dated as of September 15, 2016, between Cabot Corporation and U.S. Bank National Association, as Trustee, including the form of Global Note attached as Annex A thereto, supplementing the Indenture dated as of September 15, 2016 (incorporated herein by reference to Exhibit 4.2 of Cabot Corporation's Current Report on Form 8-K dated September 15, 2016, file reference 1-5667, filed with the SEC on September 15, 2016).
4(a)(viii)	Second Supplemental Indenture, dated June 20, 2019, between Cabot Corporation and U.S. Bank National Association, including the form of Global Note attached as Annex A thereto (incorporated by reference to Exhibit 4.1 of Cabot Corporation's Current Report on Form 8-K dated June 20, 2019, file reference 1-5667, filed with the SEC on June 20, 2019).
4(b)	Description of Cabot Securities (incorporated by reference to Exhibit 4(b) of Cabot Corporation's Annual Report on Form 10-K for its fiscal year ended September 30, 2019, file reference 1-5667, filed with the SEC on November 22, 2019).
10(a)	Credit Agreement, dated August 6, 2021, among Cabot Corporation, JPMorgan Chase Bank, N.A., J.P. Morgan Securities LLC, Citibank, N.A., Bank of America, N.A., Mizuho Bank, Ltd., TD Bank, N.A., and Wells Fargo Bank, National Association, and the other lenders party thereto (incorporated herein by reference to Exhibit 10.1 of Cabot's Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2021, file reference 1-5667, filed with the SEC on August 9, 2021).
10(b) †	Amended and Restated Credit Agreement, dated as of October 19, 2021, among certain subsidiaries of Cabot Corporation, guaranteed by Cabot Corporation, Wells Fargo Bank, National Association, PNC Bank, National Association, U.S. Bank National Association, Mizuho Bank, Ltd., and the other lenders party thereto.
10(c)*	2009 Long-Term Incentive Plan (incorporated herein by reference to Appendix B of Cabot's Proxy Statement on Schedule 14A relating to the 2012 Annual Meeting of Stockholders, file reference 1-5667, filed with the SEC on January 30, 2012).
10(c)(i)*	2017 Long-Term Incentive Plan (incorporated herein by reference to Exhibit 10.1 of Cabot's Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2017, file reference 1-5667, filed with the SEC on May 8, 2017).
10(c)(ii)*	Amended and Restated 2017 Long-Term Incentive Plan (incorporated herein by reference to Exhibit 10.1 of Cabot's Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2021, file reference 1-5667, filed with the SEC on May 5, 2021).
10(c)(iii)*	2015 Directors' Stock Compensation Plan (incorporated herein by reference to Appendix B of Cabot's Proxy Statement on Schedule 14A relating to the 2015 Annual Meeting of Stockholders, file reference 1-5667, filed with the SEC on January 28, 2015).
10(c)(iivi)*	Cabot Corporation 2018 Short-Term Incentive Compensation Plan (incorporated herein by reference to Exhibit 10.1 of Cabot's Quarterly Report on Form 10-Q for the quarterly period ended December 31, 2018 file reference 1-5667, filed with the SEC on February 8, 2019).
10(d)*	Summary of Compensation for Non-Employee Directors (incorporated herein by reference to Exhibit 10.2 of Cabot's Quarterly Report on Form 10-Q for the quarterly period ended December 31, 2018, file reference 1-5667, filed with the SEC on February 8, 2019).
10(e)*	Cabot Corporation Amended and Restated Senior Management Severance Protection Plan, dated March 9, 2012 (incorporated herein by reference to Exhibit 10.5 of Cabot's Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2012, file reference 1-5667, filed with the SEC on May 7, 2012).
10(f)*	Form of Performance-Based Restricted Stock Unit Award Certificate under the Cabot Corporation 2017 Long-Term Incentive Plan (incorporated herein by reference to Exhibit 10(e) of Cabot's Annual Report on Form 10-K for its fiscal year ended September 30, 2019, file reference 1-5667, filed with the SEC on November 21, 2018).

Exhibit Number	Description
10(g)*	Form of Time-Based Restricted Stock Unit Award Certificate under the Cabot Corporation 2017 Long-Term Incentive Plan (incorporated herein by reference to Exhibit 10(f) of Cabot's Annual Report on Form 10-K for its fiscal year ended September 30, 2019, file reference 1-5667, filed with the SEC on November 21, 2018).
10(h)*	Form of Stock Option Award Certificate under the Cabot Corporation 2017 Long-Term Incentive Plan (incorporated herein by reference to Exhibit 10(g) of Cabot's Annual Report on Form 10-K for its fiscal year ended September 30, 2019 file reference 1-5667, filed with the SEC on November 21, 2018).
10(i)*	Cabot Corporation Deferred Compensation and Supplemental Retirement Plan, amended and restated January 1, 2014 (incorporated herein by reference to Exhibit 10.1 of Cabot's Quarterly Report on Form 10-Q for the quarterly period ended December 31, 2013, file reference 1-5667, filed with the SEC on February 6, 2014).
10(j)*	Cabot Corporation Non-Employee Directors' Deferral Plan, amended and restated January 1, 2014 (incorporated herein by reference to Exhibit 10.2 of Cabot's Quarterly Report on Form 10-Q for the quarterly period ended December 31, 2013, file reference 1-5667, filed with the SEC on February 6, 2014).
10(k) *	Offer Letter dated February 12, 2021 between Cabot Corporation and Jeff Zhu, as amended by letter agreement dated February 4, 2021 (incorporated by reference to Exhibit 10.1 of Cabot's Quarterly Report on Form 10-Q for the quarterly period ended December 31, 2020, file reference 1-5667, filed with the SEC on February 5, 2021).
21†	Subsidiaries of Cabot Corporation.
23†	Consent of Deloitte & Touche LLP.
31(i)†	Certification of Principal Executive Officer required by Rule 13a-14(a) or Rule 15d-14(a) of the Exchange Act.
31(ii)†	Certification of Principal Financial Officer required by Rule 13a-14(a) or Rule 15d-14(a) of the Exchange Act.
32††	Certifications of the Principal Executive Officer and Principal Financial Officer pursuant to 18 U.S.C. Section 1350.
101.INS†	Inline XBRL Instance Document – the instance document does not appear in the Interactive Data File because XBRL tags are embedded within the Inline XBRL document.
101.SCH†	Inline XBRL Taxonomy Extension Schema Document.
101.CAL†	Inline XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF†	Inline XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB†	Inline XBRL Taxonomy Extension Label Linkbase Document.
101.PRE†	Inline XBRL Taxonomy Extension Presentation Linkbase Document.
104*	Cover Page Interactive Data File (embedded within the Inline XBRL document).

* Management contract or compensatory plan or arrangement.

† Filed herewith.

†† Furnished herewith.

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, the Registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized.

CABOT CORPORATION

BY: /s/ SEAN D. KEOHANE
Sean D. Keohane
President and Chief Executive Officer

Date: November 29, 2021

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

Signatures	Title	Date
/s/ SEAN D. KEOHANE Sean D. Keohane	Director, President and Chief Executive Officer	November 29, 2021
/s/ ERICA MCLAUGHLIN Erica McLaughlin	Senior Vice President and Chief Financial Officer (principal financial officer)	November 29, 2021
/s/ LISA M. DUMONT Lisa M. Dumont	Vice President and Controller (principal accounting officer)	November 29, 2021
/s/ SUE H. RATAJ Sue H. Rataj	Director, Non-Executive Chair of the Board	November 29, 2021
/s/ CYNTHIA A. ARNOLD Cynthia A. Arnold	Director	November 29, 2021
/s/ DOUGLAS DEL GRASSO Douglas Del Grasso	Director	November 29, 2021
/s/ JUAN ENRIQUEZ Juan Enriquez	Director	November 29, 2021
/s/ WILLIAM C. KIRBY William C. Kirby	Director	November 29, 2021
/s/ MICHAEL M. MORROW Michael M. Morrow	Director	November 29, 2021
/s/ FRANK A. WILSON Frank A. Wilson	Director	November 29, 2021
/s/ MATTHIAS L. WOLFGRUBER Matthias L. Wolfgruber	Director	November 29, 2021
/s/ CHRISTINE Y. YAN Christine Y. Yan	Director	November 29, 2021

Exhibit 31(i)

Principal Executive Officer Certification

I, Sean D. Keohane, certify that:

1. I have reviewed this annual report on Form 10-K of Cabot Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

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

c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 29, 2021

/s/ SEAN D. KEOHANE

Sean D. Keohane
President and
Chief Executive Officer

Exhibit 31(ii)

Principal Financial Officer Certification

I, Erica McLaughlin, certify that:

1. I have reviewed this annual report on Form 10-K of Cabot Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

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

c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 29, 2021

/s/ ERICA MCLAUGHLIN

Erica McLaughlin
Senior Vice President and
Chief Financial Officer

Exhibit 32

Certifications Pursuant to 18 U.S.C. Section 1350,
as Adopted Pursuant to Section 906 of the
Sarbanes-Oxley Act of 2002

In connection with the filing of the Annual Report on Form 10-K for the year ended September 30, 2021 (the “Report”) by Cabot Corporation (the “Company”), each of the undersigned hereby certifies pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to his knowledge:

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

November 29, 2021

/s/ SEAN D. KEOHANE

Sean D. Keohane
President and
Chief Executive Officer

November 29, 2021

/s/ ERICA MCLAUGHLIN

Erica McLaughlin
Senior Vice President and
Chief Financial Officer

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Corporate Headquarters

Cabot Corporation
Two Seaport Lane, Suite 1400
Boston, Massachusetts 02210-2019
617 345 0100

Investor Relations

Investor inquiries are welcome and individuals are invited to contact us through our investor website at **cabotcorp.com/investors** or by telephone at 617 342 6255.

Stock Listing

Cabot Corporation common stock is listed on the New York Stock Exchange under the symbol CBT.

Annual Meeting

The Annual Meeting of Stockholders will be held on March 10, 2022, at 4:00 p.m. ET in a virtual meeting format via live webcast at meetnow.global/MLNW2AY. All stockholders are invited to attend.

Stock Transfer Agent and Registrar

Registered shareholders may contact the transfer agent by Internet or by phone for information or assistance with receiving proxy materials electronically by internet, transfers of stock ownership, direct deposit of dividend payments, dividend check replacements, account history, lost stock certificates, taxable income or to report address changes. The transfer agent provides telephone assistance Monday through Friday, 9:00 a.m. to 5:00 p.m. ET. Extended service is available 24 hours a day, seven days a week to callers with touch-tone telephones through the transfer agent's Interactive Voice Response System.

When using the IVR system, mention Cabot Corporation as your stock holding and be prepared to provide your name, Social Security number, if applicable, or your Computershare account number. Please include your address and telephone number in all correspondence with the transfer agent.

Computershare Trust Company, N.A.
c/o Computershare
P.O. Box 505000
Louisville, KY 40233

Overnight correspondence should be sent to:
Computershare
462 South 4th Street, Suite 1600
Louisville, KY 40202

Stockholder Inquiries: 781 575 3170 or 800 730 4001

For the hearing impaired: 800 952 9245 (TTY/TDD)

As an alternative to calling Computershare, you can easily manage your account anytime, anywhere with no waiting by visiting their Quick Access Hub at http://cshare.us/qahub to view statements, stock value, share balance, replace checks, add or change account beneficiaries, update an address, and enroll in direct deposit or to receive text message notifications.

Stockholder Website: **computershare.com/investor**
Click on "Contact Us" link at the top or bottom of the webpage for online stockholder inquiries.

For more information about Cabot Corporation and our businesses, please visit our website at: cabotcorp.com

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