

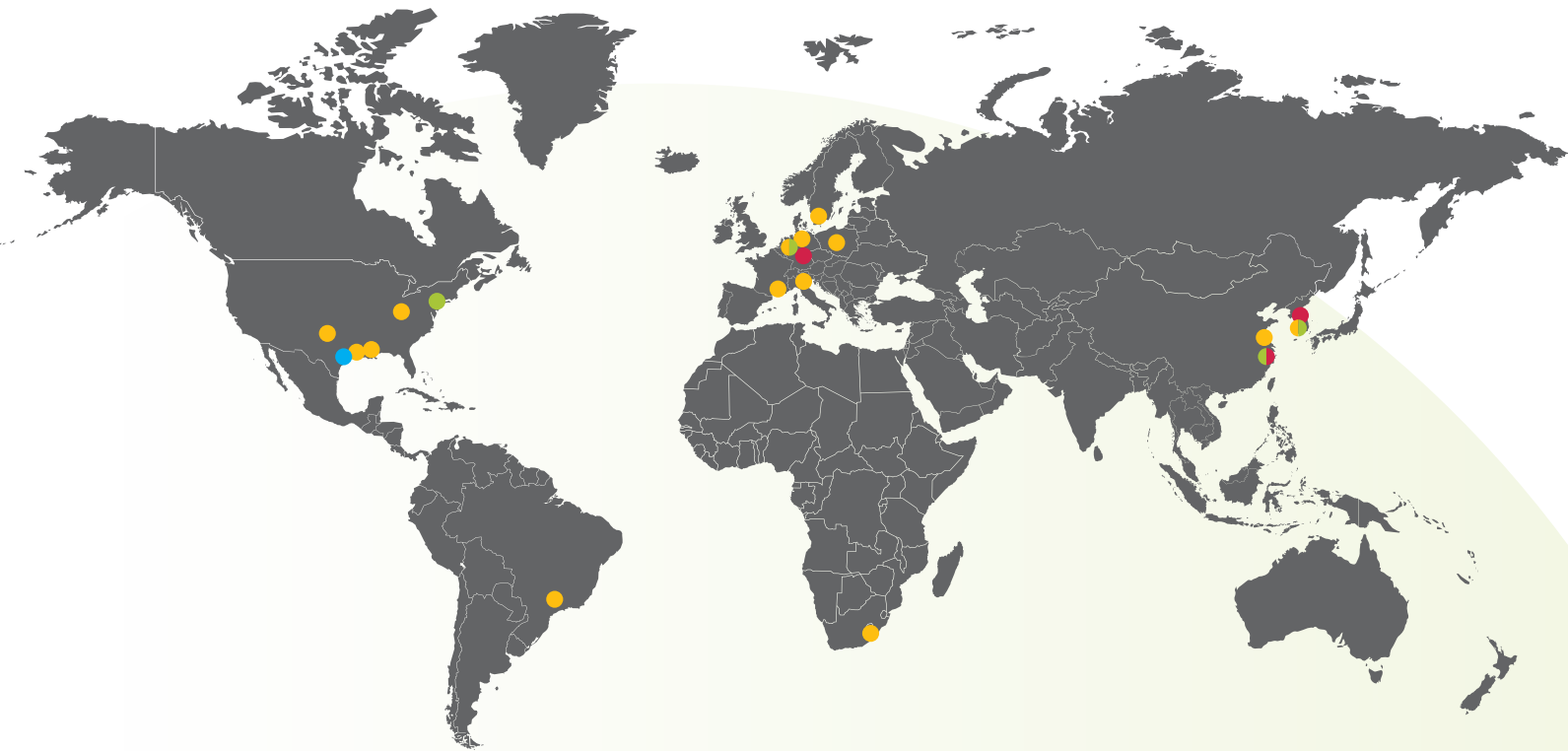
RESILIENT AND SUSTAINABLE

2020 ANNUAL REPORT





A leading worldwide supplier of carbon black



● Corporate Headquarters ● Plants ● Technical Center ● Administration

Orion Engineered Carbons (NYSE:OEC) is a global supplier of carbon black products including high-performance specialty gas blacks, acetylene blacks, furnace blacks, lamp blacks, thermal blacks, and other carbon blacks that tint, colorize and enhance the performance of polymers, plastics, paints and coatings, inks and toners, textile fibers, adhesives and sealants, batteries, tires, and mechanical rubber goods, such as automotive belts and hoses. The company has over 125 years of history providing customized solutions from a network of 14 global production sites and is dedicated to responsible business practices that emphasize reliability, innovation and sustainability.

OUR VALUES

We are passionate about carbon black. In our day-to-day activities, the commitment we have to our business is guided by our values.



Safety and Sustainability



Integrity



Customer Focus



Accountability
(we get things done)



Valuing People
(trust, respect, and development)

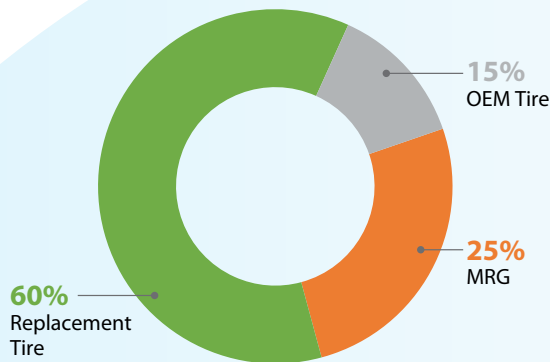


Innovation

These values are core to who we are, and to what we are focused on becoming. These values express our dedication to excellence. They encompass our commitment to compliance with environmental, labor, trade, fair business practice and other laws and regulations, and ethical business practices; training and developing our employees; fair dealings with our suppliers; and, the development and production of carbon blacks that not only meet health standards, but also enhance environmental performance across the value chain.

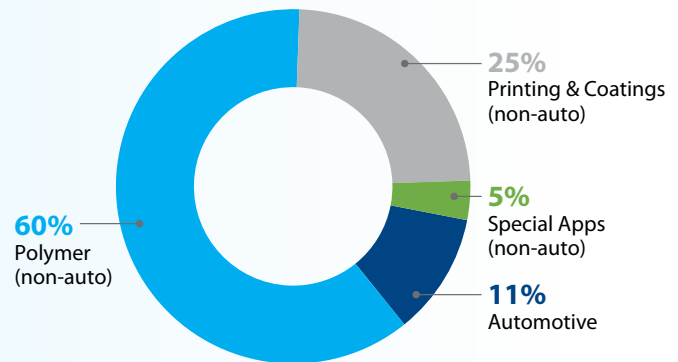
Rubber Carbon Black

2020 Volume: 635 kmt



Specialty Carbon Black*

2020 Volume: 232 kmt



*Total does not equal 100% due to rounding.

WHY INVEST



Leading global producer of specialized, higher margin carbon black



Durable, secular growth drivers



Strong operating cash flow



Long term management incentives aligned to maximize shareholder value



Advancing sustainability in our industry across the value chain

DEAR FELLOW SHAREHOLDERS

Corning Painter – Chief Executive Officer

I'll never forget March 23rd, 2020, the day we suspended our dividend. That day Lorin Crenshaw and I spoke with 24 major investors and analysts. I knew we did the right thing but was ready for some tough calls.



Instead, the vast majority of the calls were overwhelmingly supportive. In fact, I jotted down some of the comments and shared them on my next video to employees. In their video, I said that we all know that we work for investors, but so few of us get to meet them that it is not personal for most of us. I explained that I was sharing our investors' comments so that all of us at Orion could take pride in their support and trust, and feel the same personal commitment I feel: we are not going to let you, our investors, down.

WE ARE AGILE

Early in the pandemic we committed ourselves to using this time to take action. Our goal was not just to ensure Orion survived; our goal was to use this opportunity to ensure we emerged stronger. In a way, the complete collapse in demand was a rare gift and we did not waste it. For example, there are certain plant reliability upgrades that are hard to do without shutting down the whole plant, so this work tends to build up. When the customer orders stopped, our people (labor and management) regrouped. We agreed to waive work rules and notice periods – everything but safety – and got to work. Work we would have normally contracted out, we did ourselves, keeping our people gainfully employed. People who normally worked in a lab worked with a shovel instead. It was not glamorous, but it was meaningful. We did it for ourselves, our families, our customers, and our investors – and we are a stronger company for it.

Beyond flexible, our people were fast. We strived to exceed our customer's expectations during the depths of the downturn and through the sudden surge in orders. We overrode demand

forecasting processes, shortened planning periods, and stepped up the pulse of Orion. Despite the surge, we engineered work process improvements such as shortening cycle times to confirm orders. Through it all, our team was diligent with COVID-19 safety protocols so that we had zero workplace transmission, despite the fact that we operate in hotspots like Italy, Sweden, the USA, and Brazil.

Despite the pandemic, we decided to stay the course on investing in our people. In 2020, we launched a global wellness program, an e-learning platform, and a global human resources information system. These actions expanded learning and development opportunities, which in turn enhanced the value of this company.

WE ARE RESILIENT

Our hard work was rewarded and proved our financial resilience. Our business model is time-tested – our Kalscheuren plant celebrated its 125th year anniversary in 2020. Orion, however, was not public prior to 2014, so the pandemic was the first serious macroeconomic challenge we have faced as a public company. I am pleased to say that we rose to the challenge: net leverage rose only one turn, year-over-year, and our business required only a net \$27 million in borrowing operationally, as we advanced our EPA, safety, sustaining, and growth capital investments.

Fourth quarter volumes were up slightly from the prior year, with rubber at 98 percent and specialty at 115 percent of the prior year. A great position to leverage as we entered 2021.

We are setting the table for the future by expanding our capacity in growth markets, with an emphasis on higher margins, differentiated products, advancing our ESG-related offerings, and investing in our people.

As the prospects for herd immunity improve, we are recalibrating our capital allocation and dividend policy to maximize shareholder value. First, we intend to ensure our financial standing and dividend capacity across a severe economic downturn like 2020. Second, we will maintain more capital to fund value-enhancing growth initiatives than in years past. Finally, we'll establish a mechanism to guide the size and frequency of capital returned to shareholders over time. We believe these principles will result in a fundamentally higher earnings capacity and intrinsic value.

WE ARE COMMITTED TO ENABLING A SUSTAINABLE FUTURE

We see rising interest in Environmental, Social, and Governance (ESG) concerns – particularly environmental – as a key opportunity that will become a threat if ignored. We are improving air emissions, cogeneration rates, and reporting transparency, having upgraded several plants in 2019 and 2020. We have stepped up our community support efforts and improved our governance, in terms of board independence and diversity. However, climate change and the advent of a circular economy are the strategic opportunities for our industry.

We have a threefold strategic focus to address climate change and the development of a circular economy:

- *Recycled carbon blacks*: such as those made from oil recovered from end-of-life tires,
- *Green carbon blacks*: derived from renewable feedstocks, and
- *Enabling carbon blacks*: which are grades that enable lower fuel consumption or extend end-product life.

I am proud to say we are partnered with leading companies to drive a circular economy and sustainable solutions via the BlackCycle consortium. You will hear from us on these topics.

SHIFTING TOWARD HIGHER MARGIN, SPECIALIZED CARBON BLACKS

We have several projects underway to shift the mix of our portfolio even more toward higher margin, specialized, and technical grade carbon blacks. We are completing an expansion of our Ravenna, Italy site adding 25 kilo metric tons principally to produce specialty grades, and we are building a new plant in Huaibei, China that will add 65-70 kilo metric tons primarily for specialty and technical rubber grades.

LOOKING FORWARD

In the near-term, we are making the most of the economic recovery and staying agile to succeed in whatever demand scenario unfolds. At the same time, we are setting the table for the future by expanding our capacity in growth markets, with an emphasis on higher margins, differentiated products, advancing our ESG-related offerings, and investing in our people.

Sincerely,



Corning Painter
Chief Executive Officer

WE'RE EVERYWHERE YOU LOOK

WE CREATE MATERIALS THAT TRANSFORM THE WAY YOU LIVE

With more than 125 years of experience, we know that black is not always black. With its various shades and undertones, black is as varied as the colors that make up the rainbow. For us, it is simply the most elegant, fascinating and diverse color.

But it's not just the variety of colors that makes carbon black special. Its versatile properties can be customized to improve the performance of its application products, be it in tires, polymer-based products or even in state-of-the-art lithium batteries for electric vehicles.

Our passion for carbon black is reflected in what we do every day. It shows in the development of new products as solutions for our customers, in ensuring the quality of the products we manufacture and in constantly minimizing our ecological footprint, be it in the use of energy and water or in waste disposal.



RUBBER CARBON BLACKS

TIRES

- Passenger cars
- Light trucks
- Medium trucks
- Buses
- Motorcycles
- Agriculture
- Industrial
- Mining
- Construction
- Aviation

MECHANICAL RUBBER GOODS

- Tubes and hoses
- Conveyor belts
- Extruded profiles
- Molded products
- Seals
- Gaskets
- Anti-vibration engine mounts
- Wiper blades
- Rubber flooring

COATING SYSTEMS

- Automotive coatings
- Industrial coatings
- Decorative paints



SPECIALTY CARBON BLACKS

POLYMERS

- Pipes for gas, water and chemical transportation
- Synthetic fibers for textiles and industrial applications
- Adhesives and sealants
- Semi-conductive compounds for high voltage cables
- Cable jacketing
- Engineered polymers for automotive parts
- Films for food packaging and agricultural applications
- Conductive and antistatic modification

PRINTING SYSTEMS

- Flexographic and gravure printing inks for publication and packaging
- Coldset printing inks for newspaper
- Heatset and sheetfed printing inks for publication and packaging
- Toner for laser printers and copy stations
- Inkjet inks for small office and industrial applications on various substrates
- Screen inks for various substrates and printed electronics

SPECIALTY APPLICATIONS

- Batteries - including lithium-ion
- Ceramics
- Derussol
- Foundry
- Graphite-molded parts
- Non-woven material

INCORPORATING SUSTAINABILITY INTO OUR STRATEGY

OUR GOVERNANCE STRUCTURE

Our Board of Directors' Nominating, Sustainability and Governance Committee oversees our activity related to sustainability. Orion's CEO is accountable to the Board for sustainability strategy, risk management and performance target setting and delivery. The CEO is supported by his direct reports who are responsible for embedding sustainability into Orion's management framework and operations.

**Board of Directors'
Nominating, Sustainability
and Governance
Committee**

Chief Executive Officer

**Sustainability Committee
(Chaired by CEO)**

In 2019, we focused on getting our ESG (Environment, Social and Governance) fundamentals right. The actions we took included:

- adding sustainability to the responsibility of our Board's Nominating, Sustainability and Governance Committee;
- setting clear emissions reduction targets for greenhouse gases (GHG), sulfur dioxide (SO₂), nitrogen oxide (NO_x) and particulate matter (PM), as well as for improving the overall energy recovery rate;
- updating policies on important social issues, such as strengthening our policies on non-discrimination;
- creating a community support program and making PPE donations and other related items during the pandemic; and,
- publishing our first sustainability report.

We built on this foundation in 2020 with further actions including:

- increasing the independence and diversity of our Board of Directors;
- conducting our first employee engagement survey and taking prompt actions in select areas;
- launching an e-learning platform to broaden educational opportunities for employees;
- commissioning enhanced air emission controls at several plants;
- expanding community support programs;
- strengthening controls around sustainability data reporting to ensure consistency across all of our operating sites; and,
- launching our first company-wide wellness program.

We see sustainability as an opportunity and are working to make it an integral part of our strategy. Our sustainability strategy is grounded on a sustainable supply chain, sustainable operations, and a sustainable product portfolio. As a responsible carbon additive producer, offering sustainable products to our customers is a critical component of our strategy that will drive sustainability across the full spectrum of our industry's value chain.



REVIEW OUR FULL ESG REPORT

orioncarbons.com/sustainability_reports

SUSTAINABILITY FRAMEWORK

Environmental impact, social issues and governance practices across the value chain of the carbon black industry provides the framework for our approach to sustainability. We have grouped sustainability topics that are relevant to us under the following four themes:



SUSTAINABLE GROWTH

We are committed to growing our business profitably and responsibly with a minimal environmental footprint to ensure sustainable returns to our stakeholders on an ongoing basis, including reductions in:

- Emissions and energy consumption (including avoided CO2 through product sustainability)
- Water consumption
- Waste generation



COMPLIANCE

As a responsible corporate citizen, we are committed to the operating standards set out in the applicable laws and regulations, and our policies in the areas of:

- Operational safety
- Operational compliance
- Business compliance
- Trade compliance
- Code of conduct
- Corporate governance



LIVING OUR VALUES

We strive to be an active member of the civil society where we operate. We believe in basic human rights and equal opportunity for all, encompassing gender, nationality, race, and sexual orientation. We do this with a focus on:

- Diversity and inclusion
- Local community engagement
- Support local economies



VALUE CHAIN ENGAGEMENT

We believe that our sustainability performance is only as good as the standards set by the weakest link in our value chain. We are committed to continuous improvement in strengthening sustainability along our value chain through:

- Sustainable procurement
- Minimizing environmental footprints
- Supporting human rights
- Enhancing our capabilities in training and data transparency

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2020

OR

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

For the transition period from _____ to _____

Commission file number 001-36563



(Exact name of registrant as specified in its charter)

Grand Duchy of Luxembourg

(State or other jurisdiction of incorporation or organization)

00-0000000

(I.R.S. Employer Identification No.)

**4501 Magnolia Cove Drive Suite 106
Houston, Texas**

(Address of Principal Executive Offices)

77345

(Zip Code)

(281) 318-2959

Registrant's telephone number, including area code

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Shares, no par value	OEC	New York Stock Exchange

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

_____ none _____

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

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 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 electronically submitted 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 the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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

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

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

The aggregate market value of voting and non-voting common equity held by non-affiliates, based upon the closing price for the common shares, as reported on the New York Stock Exchange on the last business day of the registrant's most recently completed second fiscal quarter, of \$10.59, was approximately \$0.6 billion.

The registrant had outstanding 60,511,870 shares of common stock as of February 9, 2021

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's definitive proxy statement for the 2021 annual meeting of shareholders.

Table of Contents

Certain Defined Terms	i
Presentation of Certain Financial and Other Information	ii
Note Regarding Forward-Looking Statements	iii
PART I	1
Item 1. Business	1
Item 1A. Risk Factors	10
Item 1B. Unresolved Staff Comments	23
Item 2. Properties	23
Item 3. Legal Proceedings	24
Item 4. Mine Safety Disclosures	24
PART II	25
Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	25
Item 6. Selected Financial Data	25
Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations	27
Item 7A. Quantitative and Qualitative Disclosures About Market Risk	37
Item 8. Financial Statements	39
Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	80
Item 9A. Controls and Procedures	80
Item 9B. Other Information	82
PART III	82
Item 10. Directors, Executive Officers and Corporate Governance	82
Item 11. Executive Compensation	83
Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	83
Item 13. Certain Relationships and Related Transactions, and Director Independence	83
Item 14. Principal Accounting Fees and Services	83
PART IV	84
Item 15. Exhibits, Financial Statement Schedules	84
Item 16. 10-K Summary	84
SIGNATURES	86

Certain Defined Terms

In this annual report, unless otherwise specified or if the context so requires:

- References in this report to “Orion,” the “Group,” the “Orion Group,” the “Company,” “we,” “us” or “our” are to Orion Engineered Carbons S.A., a Luxembourg joint stock corporation (*société anonyme*), and its consolidated subsidiaries;
- References to the “Acquisition” are to the acquisition of the carbon black business line from Evonik Industries AG, completed on July 29, 2011;
- References to the “Credit Agreement” are to the Credit Agreement, dated as of July 25, 2014, among the Company, Orion Engineered Carbons Holdings GmbH, Orion Engineered Carbons Bondco GmbH, Orion Engineered Carbons GmbH, OEC Finance US LLC, the revolving borrowers named therein, the guarantors named on the signature page thereto, the lenders named therein, and Goldman Sachs Bank USA as administrative agent, as amended; and
- Reference to “Evonik” are to Evonik Industries AG, Germany, Evonik Degussa GmbH, Germany and any affiliated companies.

Presentation of Certain Financial and Other Information

The financial audited statements included in this report have been prepared in accordance with accounting principles generally accepted in the United States (“U.S. GAAP” or “GAAP”).

Non-GAAP Financial Measures

In this report, we present certain financial measures that are not recognized by GAAP and that may not be permitted to appear on the face of GAAP-compliant financial statements or notes thereto. The non-GAAP financial measures contained in this report are unaudited and have not been prepared in accordance with GAAP or the accounting standards of any other jurisdiction and may not be comparable to other similarly titled measures of other companies. For a reconciliation of these non-GAAP financial measures to the most directly comparable GAAP measures, see below *Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations*.

The non-GAAP financial measures used in this report are Contribution Margin, Contribution Margin per Metric Ton (collectively, “Contribution Margins”), Adjusted EBITDA, Net Working Capital and Capital Expenditures. We define Contribution Margin as revenue less variable costs (such as raw materials, packaging, utilities and distribution costs). We define Contribution Margin per Metric Ton as Contribution Margin divided by volume measured in metric tons. We define Adjusted EBITDA as operating result (EBIT) before depreciation and amortization, adjusted for acquisition related expenses, restructuring expenses, consulting fees related to Company strategy, share of profit or loss of joint venture and certain other items. Adjusted EBITDA is defined similarly in the Credit Agreement. Adjusted EBITDA is used by our management to evaluate our operating performance and make decisions regarding allocation of capital because it excludes the effects of items that have less bearing on the performance of our underlying core business. We define Net Working Capital as inventories plus current trade receivables minus trade payables. We define Capital Expenditures as cash paid for the acquisition of intangible assets and property, plant and equipment as shown in the consolidated financial statements.

We also use Segment Adjusted EBITDA Margin, which we define as Adjusted EBITDA for the relevant segment divided by the revenue for that segment.

We use Adjusted EBITDA, Contribution Margins and Net Working Capital, as well as Adjusted EBITDA by segment and Segment Adjusted EBITDA Margin, as internal measures of performance to benchmark and compare performance among our own operations. We use these measures, together with other measures of performance under GAAP, to compare the relative performance of operations in planning, budgeting and reviewing the performance of our business. We believe these measures are useful measures of financial performance in addition to consolidated net income for the period, income from operations (EBIT) and other profitability measures under GAAP because they facilitate operating performance comparisons from period to period and company to company and, with respect to Contribution Margin, eliminate volatility in feedstock prices. By eliminating potential differences in results of operations between periods or companies caused by factors such as depreciation and amortization methods, historic cost and age of assets, financing and capital structures and taxation positions or regimes, we believe that Adjusted EBITDA can provide a useful additional basis for comparing the current performance of the underlying operations being evaluated. For these reasons, we believe EBITDA-based measures are often used by the investment community as a means of comparison of companies in our industry. By deducting variable costs (such as raw materials, packaging, utilities and distribution costs) from revenue, we believe that Contribution Margins can provide a useful basis for comparing the current performance of the underlying operations being evaluated by indicating the portion of revenue that is not consumed by these variable costs and therefore contributes to the coverage of all costs and profits.

Different companies and analysts may calculate measures based on EBITDA, contribution margins and working capital differently, so making comparisons among companies on this basis should be done carefully. Adjusted EBITDA, Contribution Margins and Net Working Capital are not measures of performance under GAAP and should not be considered in isolation or construed as substitutes for revenue, consolidated net income for the period, income from operations (EBIT), gross profit and other GAAP measures as an indicator of our operations in accordance with GAAP.

Reconciliation of Non-GAAP Financial Measures

We use Contribution Margin and Adjusted EBITDA as supplemental measures of our operating performance. Contribution Margin and Adjusted EBITDA presented in this Management Discussion and Analysis have not been prepared in accordance with GAAP or the accounting standards of any other jurisdiction. Other companies may use similar non-GAAP financial measures that are calculated differently from the way we calculate these measures. Accordingly, our Contribution Margin and Adjusted EBITDA may not be comparable to similar measures used by other companies and should not be considered in isolation, or construed as substitutes for revenue, consolidated net income for the period, income from operations (EBIT), gross profit and other GAAP measures as indicators of our results of operations in accordance with GAAP. See *“Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations—Reconciliation of Non-GAAP Financial Measures.”*

Note Regarding Forward-Looking Statements

This report contains and refers to certain forward-looking statements with respect to our financial condition, results of operations and business. These statements constitute forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). Forward-looking statements are statements of future expectations that are based on management's current expectations and assumptions and involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in these statements. Forward-looking statements include, among others, statements concerning the potential exposure to market risks, statements expressing management's expectations, beliefs, estimates, forecasts, projections and assumptions and statements that are not limited to statements of historical or present facts or conditions.

Forward-looking statements are typically identified by words such as "anticipate," "assume," "assures," "believe," "confident," "could," "estimate," "expect," "intend," "may," "plan," "objectives," "outlook," "probably," "project," "will," "seek," "strong," "target," "to be," and other words of similar meaning. These forward-looking statements include, without limitation, statements about the following matters:

- our strategies for (i) strengthening our position in specialty carbon blacks and rubber carbon blacks, (ii) increasing our rubber carbon black margins and (iii) strengthening the competitiveness of our operations;
- the ability to pay dividends at historical dividend levels or at all;
- cash flow projections;
- the installation of pollution control technology in our U.S. manufacturing facilities pursuant to the EPA consent decree described herein;
- the outcome of any in-progress, pending or possible litigation, arbitration (including proceedings on indemnity obligation with Evonik), or regulatory proceedings; and
- our expectation that the markets we serve will continue to grow.

All these forward-looking statements are based on estimates and assumptions that, although believed to be reasonable, are inherently uncertain. Therefore, undue reliance should not be placed upon any forward-looking statements. There are important factors that could cause actual results to differ materially from those contemplated by such forward-looking statements. These factors include, among others:

- negative or uncertain worldwide economic conditions;
- volatility and cyclicalities in the industries in which we operate;
- operational risks inherent in chemicals manufacturing, including disruptions as a result of severe weather conditions and natural disasters;
- our dependence on major customers and suppliers;
- our ability to compete in the industries and markets in which we operate;
- our ability to address changes in the nature of future transportation and mobility concepts which may impact our customers and our business;
- our ability to develop new products and technologies successfully and the availability of substitutes for our products;
- our ability to implement our business strategies;
- volatility in the costs and availability of raw materials (including, but not limited to, any and all effects from restrictions imposed by The International Convention for the Prevention of Pollution from Ships (MARPOL) convention and respective International Maritime Organization (IMO) regulations in particular to reduce sulfur oxides (SOx) emissions from ships) and energy;
- our ability to respond to changes in feedstock prices and quality;
- our ability to realize benefits from investments, joint ventures, acquisitions or alliances;
- our ability to realize benefits from planned plant capacity expansions and site development projects and the potential delays to such expansions and projects;
- information technology systems failures, network disruptions and breaches of data security;
- our relationships with our workforce, including negotiations with labor unions, strikes and work stoppages;
- our ability to recruit or retain key management and personnel;
- our exposure to political or country risks inherent in doing business in some countries;
- geopolitical events in the European Union ("EU"), and in particular the ultimate future relations between the EU and the United Kingdom;
- environmental, health and safety regulations, including nanomaterial and greenhouse gas emissions regulations, and the related costs of maintaining compliance and addressing liabilities;
- possible future investigations and enforcement actions by governmental or supranational agencies;

- our operations as a company in the chemical sector, including the related risks of leaks, fires and toxic releases;
- market and regulatory changes that may affect our ability to sell or otherwise benefit from co-generated energy;
- litigation or legal proceedings, including product liability and environmental claims;
- our ability to protect our intellectual property rights and know-how;
- our ability to generate the funds required to service our debt and finance our operations;
- fluctuations in foreign currency exchange and interest rates;
- the availability and efficiency of hedging;
- changes in international and local economic conditions, including with regard to the Euro, dislocations in credit and capital markets and inflation or deflation;
- potential impairments or write-offs of certain assets;
- required increases in our pension fund contributions;
- the adequacy of our insurance coverage;
- changes in our jurisdictional earnings mix or in the tax laws or accepted interpretations of tax laws in those jurisdictions;
- our indemnities to and from Evonik;
- challenges to our decisions and assumptions in assessing and complying with our tax obligations; and
- potential difficulty in obtaining or enforcing judgments or bringing legal actions against Orion Engineered Carbons SA (a Luxembourg incorporated entity) or its foreign subsidiaries in the United States ("U.S.").

In light of these risks, our results could differ materially from the forward-looking statements contained in this report and no undue reliance should be placed on those forward-looking statements. For further information regarding factors that could affect our business and financial results and the related forward-looking statements, see *"Item 1A. Risk Factors."*

Part I

Item 1. Business

Overview

Orion Engineered Carbons S.A. (“Orion”, “Company”, “we”, and “our”, “OEC”) is a Luxembourg joint stock corporation (*société anonyme* or S.A.), incorporated on July 28, 2014 as a Luxembourg limited liability company (*société à responsabilité limitée*). The Company’s registered office is located at 6, Route de Trèves, L-2633 Senningerberg (Municipality of Niederanven), Grand Duchy of Luxembourg. Our principal executive offices are located in Houston, Texas, U.S.

The Company is a leading global manufacturer of carbon black products. Carbon black is a powdered form of carbon that is used to create the desired physical, electrical and optical qualities of various materials. Carbon black products are primarily used as consumables and additives for the production of polymers, printing inks and coatings (“Specialty Carbon Black” or “Specialties”) and in the reinforcement of rubber polymers (“Rubber Carbon Black” or “Rubber”). Our core competencies include the ability to engineer the physical properties of carbon black to meet the functional needs of our customers. The Company is one of the largest global producers of specialty and rubber carbon black.

We operate a global supply chain network comprised of 14 production sites (including a joint venture in Dortmund, Germany) in 10 countries. In addition to our headquarters in Luxembourg, we have our principal executive office in Houston, Texas (U.S.), as well as offices in Frankfurt (Germany), Cologne (Germany), Shanghai (China), Seoul (Korea), Tokyo (Japan) and other locations. Our principal research and development (“R&D”) center is located in Cologne (Germany). We also have laboratories to support our customers in Carlstadt, New Jersey (U.S), Shanghai, China and Yeosu, South Korea.

We are a premium supplier of carbon black generating long-term benefits for stakeholders while remaining committed to responsible business practices with a focus on team culture, reliability and sustainability.

Our business is organized into two reportable segments: Specialty Carbon Black and Rubber Carbon Black. Our business segments are discussed in more detail later in this section.

Our internet address is www.orioncarbons.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 U.S. Securities and Exchange Commission (“SEC”). Information appearing on our website is not a part of, and is not incorporated in this Annual Report on Form 10-K.

Products and Applications

Specialty Carbon Black

Carbon black 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.

The Company manufactures specialty carbon black for a broad range of specialized applications such as polymers, printing systems and coatings applications. The various production processes result in a wide range of different specialty carbon black pigment grades with respect to their primary particle size, structure surface area and surface chemistry. These parameters affect jetness, tinting strength, undertone, dispersibility, oil absorption, electrical conductivity and other characteristics. Carbon black is an additive that enhances the physical, electrical and optical properties of our customer’s end products.

We have several post-treated specialty carbon black grades for coatings and printing applications, as well as several high purity carbon black grades for the fiber industry and conductive carbon black grades for polymers, coatings and new markets, such as for battery electrodes. Our specialty grades of carbon black 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 coatings, inks, plastics, adhesives, toners, batteries, and displays.

Products

Coatings

We have a broad Coatings product portfolio, which includes products used for pigmentation in black coatings and enhancement of various other coatings (e.g., automotive base coats and architectural coatings), for conductivity and for tinting, as well as for paints and for light tinting in transparent coatings (e.g., metallic effects and wood glazing). The diversity of our manufacturing processes allows for the creation of a wide range of specialty carbon black grades with different structures and chemical properties, thereby allowing our products to impart unique characteristics to our customer's products.

Customers

Over time we have demonstrated the ability to leverage our application technology platform to play a substantial role in our Coatings customer's product innovation processes and to meet their demanding requirements. We supply the full range of Coatings industry participants, ranging from leading global players to mid and small sized customers and have longstanding relationships across the spectrum. We have been serving several of the key industry players for more than 30 years. While the Coatings market is relatively fragmented, our top five customers accounted for approximately 36% of our Coatings related volume in 2020.

Polymers

Our Polymers portfolio provides products to a diverse range of end markets including pipe (e.g., gas, oil, municipal water, sewage), construction, energy distribution (e.g., power cables), automotive, agriculture, and consumer packaging. Certain products within this portfolio provide UV protection against polymer degradation for material such as pipe used for potable water, injection molding, agriculture films and cables. Other products include standard-to high-performance grades designed and modified to provide electrical conductivity, antistatic and reinforcing properties to many different polymer articles, including high-voltage cables, films, boxes and high-pressure pipes. Certain of our polymer products have a bluish undertone, which makes these grades especially attractive for high-performance fibers used in textiles, giving them a luxury touch and feel.

Customers

The Polymer applications are used in a wide variety of industries and, as such, the customer base for Polymers tends to be wide-ranging from regional and international master batch producers to global integrated petrochemical and polyolefin producers. Many of these producers are the leading suppliers in each region. We have been serving certain of our key customers for more than 30 years. Our top five customers accounted for approximately 27% of Polymers volume in 2020.

Printing

We have a broad Printing product portfolio that provides numerous grades for different printing technologies and applications. We apply different process technologies to offer highly specialized products meeting specific requirements, including compliance with food-contact regulations and specially formulated products that require unique attributes such as color undertone, optical density and gloss.

We focus on Printing products with the highest potential for specialty applications, such as packaging and specialty niches. Packaging inks require special rheology, dispersion and wetting behavior properties. Some of our manufactured products used in UV curing inks require special surface chemistry for wetting, flow, color and stability. UV curing inks are used in products such as special applications for print media, books, posters and brochures. Our products also support printing ink manufacturers in achieving specific attributes in their products such as optical density, gloss, light fastness and color tone. These attributes are found in products and services such as display advertising, magazines and high-end packaging.

Customers

The global Printing industry has been undergoing consolidation and currently the industry is dominated by a few key players. Sourcing decisions are largely based on the attributes of specialty carbon black products. For high-end applications we focus on the required degree of product and technology know-how that make purchasing decisions less price sensitive than the low-end applications which are normally based on price. We are recognized by customers as a preferred strategic and technical partner. We have been serving certain of our key customers for more than 30 years. As a result of the consolidated nature of the printing industry our top five Printing customers accounted for approximately 66% of our Printing volume in 2020.

Competition

We are one of the largest global producers of specialty carbon black. Cabot Corporation and Birla Carbon are the other two large global producers of specialty carbon black. Each of the top three producers of specialty carbon black leverages R&D and applications technology platforms to tailor products to customer needs and to introduce its products into new application niches.

Rubber Carbon Black

Our rubber carbon black products are used in tires and mechanical rubber goods ("MRG"). Rubber carbon blacks are used to enhance the physical properties of the systems and applications in which they are incorporated. Rubber carbon blacks 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 MRG, such as hoses, belts, extruded profiles and molded goods, rubber carbon blacks are used to improve the physical performance of the product, including the product's physical strength, fluid resistance, conductivity and resistivity.

Products

Tires

We offer a broad Tire product portfolio, which includes high reinforcing grades and semi-reinforcing grades. Fine particle reinforcing grade carbon blacks are used mostly in the tread of tires. Other reinforcing grade carbon blacks are also used in different components of the tire carcass. In addition to standardized grades, we produce advanced grades tailored to meet specific customer performance requirements, such as ECORAX® grades designed to lower rolling resistance and high performance grades for truck tires and high- and ultra-high-performance passenger car tires. Semi-reinforcing grade carbon blacks are used in several components of the tire carcass like the sidewall and bead areas of a tire. We cover the full portfolio of standard semi-reinforcing grade carbon blacks and have a portfolio of special semi-reinforcing grade carbon blacks, which fulfill special customer requirements using special production technology. These special semi-reinforcing grade carbon blacks are part of our ECORAX® product family.

Customers

Given the highly consolidated nature of the tire industry, our top ten customers represented approximately 89% of our Tires volume in 2020. A significant portion of our Tire products are sold to leading tire manufacturers. We have longstanding relationships with most of these customers and have the capacity to serve them in major global regions. We have been serving certain of our key customers for more than 30 years.

We believe that our customers value the quality, consistency and reliability of our operations and are generally reluctant to switch suppliers without due cause. In addition, because automotive tires have safety implications, tire manufacturers are often required to go through lab and extensive plant approval processes before they change their supplier of carbon black.

Mechanical Rubber Goods

We produce a wide range of MRG products for a variety of end-uses, including automotive production, construction, manufacturing of wires and cables, as well as certain food, consumer and medical applications. In the area of MRG products that fall within the standards of ASTM International ("ASTM"), a global standard-setting body for a wide range of materials including carbon black, and non-ASTM blacks, we offer an extensive portfolio of "PUREX®" grades. These grades have an exceptionally high purity and high consistency and satisfy special requirements needed for smooth surfaces and electrical resistance. These grades also disperse well in rubber compounds used in parts like window seals, automotive hoses, transmission belts, damping elements and electrically conductive and antistatic rubber goods.

Customers

We serve customers across the entire value chain and the full range of MRG applications, including parts and component manufacturers and automotive system suppliers. The MRG industry is fragmented in nature and supports a large number of suppliers. Our top ten global customers accounted for approximately 50% of our Mechanical Rubber Goods volume in 2020. We have a diversified geographic presence with significant exposure to the European, North and South American and Asian MRG markets, supplying numerous leading industry participants.

Drivers of Demand

Besides general global economic conditions, certain specific drivers of demand for carbon black differ among our operating segments. Specialty carbon black has a wide variety of end-uses and demand is largely driven by the growth and development of the coatings, polymers and printing industries. Demand for specialty carbon black in the coatings and polymers industries is mainly influenced by the levels of industrialization, automobile original equipment manufacturer (“OEM”) demand, infrastructure development, consumer spending and construction activity. Demand for specialty carbon black in the printing industry is mainly influenced by developments in print media and packaging materials. Demand for rubber carbon black is largely driven by the growth and development of the automotive tire, commercial tire and MRG industries. Demand for rubber carbon black in tires is mainly influenced by the number of replacement and original equipment tires produced, which in turn is driven by (i) vehicle trends, including the number of vehicles produced and registered, and the number of miles driven, (ii) demand for high-performance tires, (iii) demand for larger vehicles, such as trucks and buses, (iv) consumer and industrial spending on new vehicles and (v) changes in regulatory requirements. Demand for rubber carbon black in MRG is mainly influenced by vehicle production and design trends, construction activity and general industrial production.

Demand in the developed Western European and North American regions is mainly driven by demographic changes, customers’ high-quality requirements, stringent tire regulation standards 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 tire manufacturing and replacement tires in developing regions.

Customer Contracts

Most of our long-term contracts contain formula-driven price adjustment mechanisms for changes in raw material and/or energy costs and in some instances, foreign exchange rates. We sell carbon black under the following two main categories of contracts based on price adjustment mechanisms:

- *Contracts with feedstock adjustments (indexed contracts).* This category includes contracts with monthly or, in some cases, quarterly automatic feedstock and/or energy cost adjustments, which cover approximately 70% of our global volumes.
- *Non-indexed contracts.* This category includes short-term contracts (usually shorter than three months) where sales prices of our carbon black products are not linked to carbon black oil market prices.

Many of our indexed contracts allow for monthly price adjustments, while a small portion (by volume sold) allow for quarterly price adjustments. These contracts have enabled us to reduce the impact of fluctuations in oil prices on our margins; however, rapid and significant oil price fluctuations have had and are likely to continue to have significant effects on our earnings and results of operations given (i) not all contracts contain price adjustment mechanisms and (ii) the value of our productivity improvements rises and falls with oil price movements. See “*Item 1A. Risk Factors—Risks Related to Our Business—We are subject to volatility in the costs and availability of raw materials and energy, which could decrease our margins and adversely affect our business, financial condition, results of operations and cash flows.*” Sales prices under non-indexed contracts are reviewed on a regular basis to reflect raw material and energy price fluctuations as well as overall market conditions.

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 carbon black is comprised of residual heavy oils derived from petroleum refining operations, the distillation of coal tars, and the production of ethylene throughout the world. Approximately 56% of our carbon black oil supply is covered by short- and long-term contracts with a wide variety of suppliers. Natural gas is also used in the production of carbon black. These raw material costs generally are influenced by the availability of various types of carbon black feedstock and natural gas, supply and demand of such raw materials and related transportation costs. Changes in our raw material supplier’s operating conditions and demand for their products could reduce the availability of certain very specialized feedstocks.

Competition

We are one of the leading global producers of rubber carbon blacks. We compete with four companies that operate globally and numerous other companies that operate regionally, a number of which export product outside their region. The smaller regional suppliers mainly participate in standard and MRG applications and are less likely to provide specialized products used in higher end tire and MRG applications. Competition for our rubber carbon black products is generally based on product performance, quality, reliability, price, service, technical innovation, and logistics.

Strategy

Innovation

We enjoy a long-standing reputation within the industry for carbon black product and process technology, applications knowledge, and innovation. Carbon black products are highly versatile and meet specific performance requirements across many industries. This creates significant opportunities for product and process innovation. Further product innovations are a key competitive factor in the industry, even after decades of R&D in this field.

We maintain product applications and process development centers in Europe, Asia and the Americas. Our Innovation Group is divided into applications technology and process development teams. The applications technology team works closely with our major clients to develop innovative products and expand the applications range for carbon black products. The process development team works closely with our manufacturing and procurement teams to improve production processes, product quality and cost structure.

Our leading center of excellence is located in Cologne (Germany) to support and enhance our global Innovation Group activities. This center includes carbon black technologists, applications technology laboratories and process development staff, co-located with our pilot process development facilities. Staffing in our Cologne technical center includes physicists, chemists and engineers who can effectively and efficiently collaborate to create and analyze various carbon black properties with a goal to develop new products to meet customer requirements. Common processes and information technology tools further enhance coordination and communication with our regional technical centers located in South Korea, China and the U.S.

Applications Technology

Our goal is to remain at the forefront of the industry in terms of product development by having dedicated applications technology facilities. Success relies on close collaboration with customers, often through long-term R&D alliances, which create superior technical interfaces. These interactions enable us to develop tailored solutions and meet unique customer requirements.

Our applications technology team brings together a deep knowledge of carbon black technology with an understanding of the key applications practiced by our customers. This team has access to extensive laboratory and testing facilities using similar formulations, processing and test methods employed by our customers. Customer collaborations often include cooperative testing with customers' staff in our facilities. Applications technology provides a key customer and market interface and translates specific customer needs into carbon black product attributes.

Applications technology plays a supporting role in the process of new product launches by providing technical data and presentations, training and support, and establishing and monitoring quality targets. This team works closely with customers to provide support during the qualification cycle, which can be long and may last over one year. This close cooperation decreases the likelihood of customers switching suppliers once a product has been approved.

Product quality test methods and applications testing are defined within the applications technology team. Methods are developed centrally and deployed worldwide to relevant production and applications laboratories to assure consistency in measurements and reporting.

Intellectual Property

We consider intellectual property development and management as a source of strategic competitive advantage. We initiate and maintain patents and trademarks, with varying expiration dates, on a number of our products and processes. We sell our products under a variety of patents and trademarks we own and take reasonable measures to protect them.

In connection with the separation of our business from Evonik, Evonik assigned to us its intellectual property that was exclusively used in its carbon black business, as well as certain intellectual property rights that are still in use in its retained business. However, we may be restricted in leveraging our intellectual property that we use on the basis of a license from Evonik or the intellectual property that is subject to grant-back license to expand our business into fields outside of carbon black. For additional information, see "*Item 1A. Risk Factors—Legal and Regulatory Risks—We may not be able to protect our intellectual property rights successfully.*"

Seasonality

Our business is generally not seasonal in nature, although our results of operations are generally weaker in the last three months of a calendar year.

Human Capital

We are a group of people who share one common passion: carbon black. Our success depends on attracting, recruiting and developing a diverse, talented global workforce. We are committed to providing our employees with equal opportunities for learning and personal growth in an environment where creativity and innovation are encouraged. To this end, our aspiration is to be the employer of choice in our industry. With this in mind, we have reviewed our existing talent management programs and have started taking actions to augment and modify the existing programs to provide an effective platform for all of our employees to be trained and developed and to provide them with an opportunity to grow and achieve their individual aspirations.

Orion is made up of over 1,400 employees with operating assets, laboratories and offices in 23 locations across 13 countries in all 3 regions (Americas, Asia/Pacific ("APAC") and Europe/Middle East/Africa ("EMEA")). Inspiring the entire Orion workforce to function as one team is critical to our success. We believe this is possible when we accept and value each individual for who they are. Indeed, valuing people is one of Orion's core values which define who we are and the expectation we have of Orion colleagues in our interactions with other employees, customers, suppliers and within the communities where we operate. Building on this foundation, we value our people irrespective of their nationality, race, gender, citizenship status, ethnic origin, sexual orientation, gender identification, religion or philosophy, disability and age, among others; and we strive to put this into practice when hiring, developing and retaining talents.

At Orion, talent management and development are an interactive process between individual employees and the company so that the individuals can have a fulfilling career at Orion while taking on roles and assignments that are aligned with the company's strategy. We have upgraded our talent management and development program, focusing on specific actions to improve Attraction, Engagement, Learning and Development, and Retention.

In support of these efforts, we made significant investments in both a global e-learning training platform and a human resources system platform which include focused modules for learning and development, succession planning and performance management that will allow Orion to better train and develop all our employees.

A renewed focus on promoting from within has led to increases in internal fill rates and the involvement of business leaders across the organization in talent reviews to assess employees on performance and future potential. These talent reviews have helped to uncover talent gaps, identify high potential employees, build bench strength, increase retention, and to identify our future leaders and innovators.

We uphold the freedom of association and fully recognize the right of collective bargaining. Certain of our employees worldwide are represented through unions and works councils. We value exchanging information and views with the local unions and works councils with the view to finding solutions to our common issues and ensuring success for both our employees and the company.

Environmental, Health and Safety Matters

Protection of humans and the environment, fair treatment of our partners and a clear alignment to the needs of customers are essential components of our activities. Therefore, we strive not only to comply with all applicable laws and voluntary obligations, but to continuously improve our performance and management systems. Our integrated global management system with established standards and processes is based on the principles of the Responsible Care, ISO 9001 Quality Management System, ISO 14001 Environmental Management Systems, and the Occupational Safety and Health Administration's ("OSHA") OSHAS 18001 Safety Management Systems. All of our operating sites are third-party certified by the International Organization for Standardization ("ISO") ISO 14001 and ISO 9001. The global management system outlines our processes and procedures practiced in relation to environmental protection, occupational and process safety, health protection and quality management including sustainable compliance, social accountability and product stewardship. Our sustainability report is accessible on our webpage: www.orioncarbons.com.

Our operations involve the use, processing, handling, storage and transportation of materials that are subject to numerous supranational, national and local environmental and safety laws and regulations. Our production facilities require operating permits that are subject to renewal or modification. We believe that our operations are currently in substantial compliance with all applicable environmental, health and safety laws and regulations. Although our management systems and practices are designed to ensure compliance with laws and regulations, future developments and increasingly stringent regulation could require us to make additional unforeseen environmental, health and safety expenditures.

Environmental

Air Quality

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. The most common method for controlling these gases is through combustion, which produces useable energy as a by-product. Currently, eight manufacturing sites, including one jointly owned production facility, have the capability to beneficially utilize these gases through some form of energy co-generation, such as the sale or reuse of steam, gas or electricity.

The primary air pollutants of concern include sulfur dioxide (“SO₂”), nitrogen oxides (“NOx”) and particulates. In order to maintain compliance with emission requirements, we utilize various desulfurization and de-NOx processes in some of our plants. We control the particulate matter by using our bag filter technology.

In the European Union, we are subject to the EU Directive No. 2010/75/EU on industrial emissions (“IED Directive”), which regulates pollution from industrial activities and includes rules aiming to reduce emissions into air, water, and land and to prevent the generation of waste. In addition to the IED Directive and its implementation, European jurisdictions in which we operate may provide for further regulations regarding emission reduction and safety technology standards that apply to our facilities (for example, the German Emissions Control Act).

In addition to the IED Directive and its implementation, European jurisdictions in which we operate may provide for further regulations regarding emission reduction and safety technology standards that apply to our facilities (for example, the German Emissions Control Act).

In the U.S., we are subject to emissions limitations under the federal Clean Air Act (“CAA”) and a consent decree entered into with the U.S. Environmental Protection Agency (“EPA”) as described in more detail below under “—*Environmental Proceedings*”; as well as analogous state and local laws, which regulate the emission of air pollutants from our facilities and impose significant monitoring, record keeping and reporting requirements. In addition, these laws and regulations require us to obtain pre-approval for the construction or modification of facilities expected to produce or significantly increase air emissions and to obtain and comply with air permits that include stringent conditions on air emissions and operations. In certain cases, we may need to incur capital and operating expenditures for specific equipment or technologies to control emissions. We have incurred, and expect to continue to incur, substantial administrative and capital expenditures to maintain compliance with CAA requirements.

Pursuant to the CAA, the EPA has developed industry-specific National Emission Standards for Hazardous Air Pollutants (“NESHAPs”) for stationary sources classified as “major” on the basis of their hazardous air pollutant emissions. Our U.S. facilities are subject to NESHAPs applicable to carbon black facilities, as well as NESHAPs applicable to industrial boilers.

In China and South Korea, our operations have been subject to increasingly strict air quality regulations in recent years. These regulation changes in China and South Korea in recent years have been complied with. Those to come may require additional capital and operating expenditures for specific equipment or technologies to control emissions, and we have projects underway to address the new requirements.

Greenhouse Gas Regulation and Emissions Trading

Our facilities also emit significant volumes of CO₂. In the European Union, all of our production facilities are subject to the European Emission Trading Scheme (“ETS”) for CO₂ emissions. Industrial sites to which the ETS applies receive a certain number of allowances to emit GHGs and must surrender one allowance for each metric ton of greenhouse gas (“GHG”) emitted. Carbon black production is currently listed on the carbon leakage list, which allows receiving the significant share of needed emission allowances free of charge.

The design concept of the South Korean ETS is similar to the European ETS. Currently, we purchase emission rights for an insignificant amount in South Korea to cover our excess requirements.

In the United States, the EPA regulates GHG emissions under the Clean Air Act, and has adopted rules that require reporting of GHG emissions by owners and operators of facilities in certain source categories, which include our facilities. At the state level, approximately one-half of the states have already taken legal measures to reduce emissions of GHGs, primarily through the planned development of GHG emission inventories and/or regional GHG cap-and-trade programs. There is no assurance that the current level of regulation will continue at the federal or state level in the future, or that future changes would not materially affect our operations or require material capital expenditures. The adoption of legislation or regulations that require reporting of GHGs, establish permitting thresholds based on GHG emissions or otherwise limit or impose compliance obligations for emissions of GHGs from our equipment and operations could require us to incur costs to obtain and comply with permits, reduce emissions of GHGs associated with our operations or purchase carbon offsets or allowances.

There are also ongoing discussions and regulatory initiatives in other countries in which we have facilities, including Brazil, regarding GHG emission reduction programs.

Water Quality

Our plants are net consumers of water and are generally subject to laws and regulations related to water management. Most of our plants recycle a substantial amount of the water used in the manufacturing process, which is used as “quench water” in the cooling process.

Contamination

As we handle chemicals that could cause water or soil contamination, we may be subject to remediation obligations under national law. Additionally, third parties may be able to file claims for personal injury and property damage allegedly caused by the release of hazardous substances or other pollutants into the environment.

In particular, the German Federal Act on Soil Protection requires the prevention of soil contamination by taking adequate precautions. In the United States, our facilities are subject to the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”), the Resource Conservation and Recovery Act (“RCRA”) and similar state laws. CERCLA establishes liability for parties, including current and former site owners and operators, generators, and transporters, in connection with releases of hazardous substances. Under CERCLA, we may be subject to liability without regard to fault or the lawfulness of the disposal or other activity. RCRA is the principal federal statute regulating the generation, treatment, storage and disposal of hazardous and other wastes. RCRA and state hazardous waste regulations impose detailed operating, inspection, training and response standards and requirements for permitting, closure, remediation, financial responsibility, record keeping and reporting. Our sites have areas currently and formerly used as landfills that are subject to regulation under RCRA, and certain of our facilities have been investigated and remediated under RCRA. These laws and regulations may also expose us to liability for acts that were in compliance with applicable laws at the time we performed those acts. We could incur significant costs in connection with investigation and remediation activities or claims asserted at current or former facilities or third-party sites.

Non-hazardous and Hazardous Waste

In some jurisdictions in which we operate we are subject to provisions regarding waste management and the handling and storage of hazardous substances. We generate hazardous waste in the form of spent solvents at our plant labs. In addition, coal tar fractions, a common raw material at some plants, are considered hazardous waste if spilled or otherwise require disposal, as are certain refractories that contain hexavalent chromium, which are generated infrequently. Certain facilities have on-site landfills permitted for the current disposal of non-hazardous solid waste.

Energy Surcharge

The German Renewable Energies Act (“EEG”) grants above-market payments to the producers of energy generated from renewable sources. To balance these payments, an energy surcharge is imposed on the consumers of energy. Certain exemptions regarding that surcharge are provided in the EEG, in particular for energy intensive industries and self-consumption of self-produced energy. It is expected that the exemption from the energy surcharge regarding electricity generated for the Company’s own consumption will continue to be grandfathered. However, there is no assurance that we can maintain the exemption status permanently.

Chemical Regulations

Some jurisdictions we operate in have established regimes to regulate or control chemical products to ensure the safe manufacture, use and disposal of chemicals.

In the European Union, the Regulation on Registration, Evaluation, Authorization of Chemicals (“REACH”) requires chemical manufacturers and importers in the European Union to register all chemicals manufactured in, or imported into the European Union in quantities of more than one ton annually. Registration has to be made at the European Chemicals Agency (“ECHA”), and the use of certain “highly hazardous chemicals” must be authorized by ECHA. Furthermore, REACH Regulation contains rules on bringing substances to the market that have been identified as substances of very high concern. In the United States, we are subject to federal and state chemical regulations. In particular, we are subject to the California Safe Water and Toxic Enforcement Act, which imposes labeling and record keeping requirements. In South Korea, under the Chemical Control Act, coal-based feedstock oils such as crude coal tar (“CCT”), coal tar distillate (“CTD”) and soft pitch oil (“SPO”) containing more than 0.001% quinoline are treated as hazardous chemicals requiring production sites to be duly licensed.

We are a member of the International Carbon Black Association (the "ICBA"), which currently consists of representatives from carbon black manufacturers in Europe, North and South America, Asia and Africa. The ICBA seeks to address common environmental, health and safety issues, undertakes research on health implications of carbon black, and serves as the leading advocate for the industry in the regulatory and public-interest arenas. The ICBA funds research on international environmental, health, product safety and workplace safety matters.

We are also a member of the European consortium for carbon black ("*cb4reach Consortium*") which has pre-registered and registered carbon black with ECHA as required by the REACH Regulation. Besides the Company, the following companies are members of the *cb4reach Consortium*: Cabot Corporation, Cancarb Limited, Birla Carbon, Continental Carbon Company, Tokai Carbon, and Imerys S.A.

Health and Safety

The health and safety of our employees and customers is one of our highest priorities. We maintain very good performance in occupational injury and illness rates. New employees and contractors working on site are given environmental, health and safety training and we keep track of environmental, health and safety matters. Employees are required to report and log incidents including near misses into the electronic environmental, health and safety ("EHS") management system. Our sites are required to implement and report EHS leading and lagging indicators for EHS performance. Plant managers are required to track and monitor these leading and lagging indicators and take action as appropriate. Leading and lagging indicator data and incidents are reviewed by senior management on a monthly basis.

Carbon black is produced under controlled conditions and has high purity levels. It therefore differs from other combustion products that may contain high concentrations of hazardous compounds. Due to its high purity, certain carbon black grades are permitted for use in cosmetics or in products in contact with food.

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 in accordance with applicable regulatory requirements. The Permanent Senate Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (the "MAK Commission") of the German Research Foundation (*Deutsche Forschungsgemeinschaft*), which uses a different rating system, classifies carbon black as a suspect carcinogen (Category 3B). Other national and international health organizations have not rated carbon black. Any risk reclassification of our raw materials, intermediates or finished product could result in increased operating costs or affect product lines or sales.

The Community Rolling Action Plan ("CoRAP") indicates substances for evaluation by the European Member States. The evaluation aims to clarify the initial concern that manufacturing and/or use of shortlisted substances could pose a risk to human health or the environment. With ECHA's update of the CoRAP list in March 2016 Carbon black was included in CoRAP for substance evaluation in 2018 though it has been postponed several times. The most recent ECHA update from October 2019 the substance evaluation is proposed to be further delayed to 2022. The substance evaluation for carbon black was proposed by France. The initial reasons of concern raised by the French Agency for Food, Environmental and Occupational Health & Safety ("ANSES") relate to carbon black being an alleged carcinogenic substance and a suspected reproduction toxicant. Orion is working as a member of the *cb4reach Consortium* and ICBA to address the reasons for nomination. The conclusion of the evaluation may have significant business impact should ANSES conclude that carbon black poses a risk to human health. A potential outcome could be a harmonized classification and labeling of carbon black for carcinogenicity and toxicity to reproduction. These developments may significantly affect our business, including increasing costs of doing business.

According to the recommendation of October 18, 2011 (2011/696/EU), carbon black is defined as a nano-material in Europe. Afterwards the ISO developed the ISO TC 229 "Nanotechnologies," which considers carbon black as a "nano-structured material." Other countries (such as, US, Canada, France, Belgium, Sweden, Switzerland, etc.) have implemented notification schemes related to nano materials. In Europe, Commission Regulation (EU) 2018/1881 as of December 3, 2018 amending the REACH regulation introduced new information requirements for substances with forms meeting the definition criteria of EU COM 2011/696/EU. The notification of carbon black under the different notification schemes as well as meeting the new nano-related information requirements under REACH requires capital and resource commitments to compile and file dossiers. Furthermore, more and more specific requirements for substances regarded as nanomaterials are emerging with Europe. For example, Germany is planning to introduce a more stringent Occupational Exposure Limit for nanomaterials. These developments may significantly affect our business, including increasing costs of doing business.

Further Regulatory Matters

We are subject to further governmental regulation from national, European Union and other international regulatory authorities concerning, among other things: product safety, export and import control regulations and other customs regulations, data protection and our competitive and marketplace conduct. We believe that we are in compliance in all material respects with these regulations. We cannot guarantee, however, that any future changes in the requirements or mode of enforcement of these laws and regulations will not have a material adverse effect on our business, financial condition, results of operations or cash flows.

Labor Relations

Our employees are located in many countries and are represented by labor unions and works councils in accordance with local law and practices, which could provide participation and information rights to those representatives. Membership of employee labor unions varies in accordance with the business area, local practice and country. We have entered into collective bargaining agreements with employee labor unions either directly or as members of industry-wide unions or employer organizations. In particular, approximately 73% of our employees are covered by such agreements. These agreements typically govern, among other things, terms and conditions of employment and reflect the prevailing practices in each country. We believe we have stable relations with our employees and voluntary turnover is low.

In 2017, 35 of the former employees in our closed facility in Ambès, France filed claims with the labor court of Bordeaux contesting the termination of their employment and seeking damages. Of these claims 32 are pending in the courts and our results of operations reflect accruals made by us to satisfy our best estimate of these claims should the former employees prevail.

Item 1A. Risk Factors

The following risks may have material adverse effects on our business, financial condition and results of operations. Additional risks and uncertainties of which we are not presently aware or that we currently deem immaterial could also materially affect our business operations and financial condition.

Risks Related to Our Business

The COVID-19 pandemic has had and could continue to have an adverse effect on our business and results of operations.

Our global operations expose us to risks associated with public health crises and outbreaks of epidemic, pandemic, or contagious diseases, such as the current outbreak of a novel strain of coronavirus (COVID-19). The COVID-19 pandemic has negatively impacted the global economy and created significant volatility and disruption to financial markets. Many state and local jurisdictions have periodically imposed “lock down” orders to businesses and schools, personal or collective quarantines, restrictions on travel and mass gatherings as well as other measures to slow the spread of the virus. In particular many “non-essential” businesses had to temporarily close operations or shift office workers to a remote working environment.

To date, the COVID-19 pandemic has adversely impacted our operations in a number of ways, including the temporary suspension of production at our customer’s and our own manufacturing facilities, disruptions to our supply chain, restrictions on the ability of many of our employees to work at optimal efficiency due to government actions, facility closures and other restrictions. If we experience operational or supply chain disruptions, or such disruptions are exacerbated or prolonged in the future, our business, results of operations and liquidity may be adversely impacted. In particular, the inability of our suppliers to meet our supply needs in a timely manner or our quality standards could cause delays in delivery to our customers, which could result in the cancellation of orders, customers’ refusal to accept deliveries, a reduction in purchase prices, and termination of customer relationships, any of which could have a material adverse effect on our business, financial condition, results of operations and liquidity. Even if we are able to find alternate sources for our supply needs, they may cost more, which could adversely impact our profitability and financial condition.

In addition, we have experienced significant and unpredictable reductions in the demand for our products as a result of the COVID-19 pandemic. Further economic uncertainty may cause additional delays, cancellation, or redirections of planned orders.

The foregoing and other continued disruptions to our business as a result of COVID-19 could have an adverse effect on our business, financial condition and results of operations. The extent of the impact of COVID-19 on our operational and financial performance will depend on future developments, including the duration and spread of the COVID-19 outbreak, which is highly uncertain and cannot be predicted at this time.

Negative or uncertain worldwide economic conditions may result in business volatility and may adversely impact our business, financial condition, results of operations and cash flows.

Our operations and performance are materially affected by worldwide economic conditions. Because carbon black is used in a diverse group of end products, demand for carbon black has historically been related to real gross domestic product (“GDP”) and general global economic conditions. In particular, a large part of our sales has direct exposure to the cyclical automotive industry and, to a lesser extent, the construction industry. As a result, our business experiences a level of inherent cyclical. The nature of our business and our large fixed asset base make it difficult to rapidly adjust our fixed costs downward when demand for our products declines, which could materially affect our profitability. A global or regional economic downturn may reduce demand for our products, which would decrease our revenue and could have a material adverse effect on our business, financial condition, results of operations and cash flows. In periods with significant

market turmoil and tightened credit availability, we expect to experience difficulties in collecting accounts receivable, pricing pressure and reduced global or local business activity.

The COVID-19 pandemic has adversely affected, and may continue to adversely affect, the economies and financial markets of many countries, as well as unemployment levels, resulting in a period of regional, national, and global economic recession that has curtailed or delayed spending by our customers' customers, in particular in the automotive industry and increased the risk of customer defaults or delays in payments. Our customers may terminate or attempt to amend their agreements for the purchase of our products due to decline in their demand and production, bankruptcy, lack of liquidity, lack of funding, operational failures, or other reasons. COVID-19 and the current financial, economic, and capital markets environment, and future developments in these and other areas present material uncertainty and risk with respect to our performance, financial condition, volume of business, results of operations, and cash flows.

Our business is subject to operational risks, which could adversely affect our business, financial condition, results of operations and cash flows.

Our operations are subject to hazards inherent in chemicals manufacturing and the related use, storage, transportation and disposal of feedstocks, products and wastes, including, but not limited to, fires and explosions, accidents, severe weather and natural disasters (including hurricanes, tornadoes, ice storms, droughts, floods and earthquakes), pandemics or epidemics, mechanical failures, unscheduled downtime at our production facilities, transportation interruptions, harbor-, road-, pipeline- or tank-access, pipeline leaks and ruptures, quality problems, technical difficulties, energy grid shutdowns, discharges or releases of toxic or hazardous substances or gases, other environmental risks, and sabotage, terrorist attacks or other acts of violence as well as potential boycotts, general strikes, sanctions or blockades.

Such events could disrupt our supply of raw materials or otherwise affect sales, production, transportation and delivery of our products or affect demand for our products. We could incur significant expenditures in connection with such operational risks. These may be caused both by external factors, such as natural disasters, pandemics or epidemics, war, acts of terrorism, strikes, official orders, technical interruptions or material defects and accidents or mistakes in internal procedures, such as fire, explosion or release of toxic or hazardous substances. In all of these cases, our property, third-party property or the environment may sustain damage, or there may be human exposure to hazardous substances, personal injuries or fatalities. Such events could result in material financial liabilities, civil or criminal law consequences, the temporary or permanent closure of the relevant production or administrative sites or power plants and a negative impact on our financial condition, results of operations and cash flows.

We are dependent on major customers for a significant portion of our sales, and a significant adverse change in a customer relationship could adversely affect our business, financial condition, results of operations and cash flows.

Customer concentration is driven by the consolidated nature of the industries we serve. In 2020, our top ten customers accounted for approximately 48% of our volume measured in thousand metric tons ("kmt"). Our success in strengthening relationships and growing business with our largest customers and retaining their business over extended time periods could affect our future results. The loss of any of our major customers (including due to industry consolidation) or a reduction in volumes sold to them, could adversely affect our results of operations. Any deterioration in the financial condition of any of our customers or the industries they operate in or serve that impairs our customers' ability to make payments to us could decrease our sales or increase our uncollectible receivables and could adversely affect our business, financial condition, results of operations and cash flows.

We may not be able to compete successfully in the industries and markets in which we operate.

The industries in which we operate are highly competitive based on price, product innovation, product quality, distribution capability, and industry and customer knowledge. We face competition from global and regional suppliers, both in developed and in emerging regions. While we aim to operate at low cost and are focused on reducing our fixed and variable cost base across our production chain, there may be improvements in the cost competitiveness of other manufacturers relative to us or in the performance properties of substitutable products and raw materials, which could result in advantages for our competitors and adversely affect our business. Furthermore, some of our competitors may have greater financial and other resources and larger capitalization than we do. If we are unable to respond successfully to changing competitive conditions, the demand for our products could be adversely affected which could have a material adverse effect on our business, financial condition, results of operations and cash flows.

We may not successfully develop new products and technologies that address our customers' changing requirements or competitive challenges, and our customers may substitute our products by using other products we do not offer.

The industries into which we sell our products are subject to periodic technological changes, ongoing product improvements, product substitution and changes in customer requirements. Increased competition from existing or newly developed products offered by our competitors or companies whose products offer a similar or better functionality to our products may negatively affect demand for our

products. We work to identify, develop and market innovative products on a timely basis to meet our customers' changing requirements and competitive challenges. Should we not be able to substantially maintain or further develop our product portfolio, customers may elect to source comparable or other products from competitors, which could adversely affect our business, financial condition, results of operations and cash flows.

Although carbon black continues to offer opportunities for product and process innovation, we cannot be certain that the investments we make in our innovation group will result in proportional increases in revenue or profits. In addition, the timely commercialization of products that we are developing may be disrupted or delayed by manufacturing or other technical difficulties, industry acceptance or insufficient industry 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 adversely affect our business, financial condition, results of operations and cash flows.

As a reinforcing agent in certain rubber applications, carbon black competes primarily with precipitated silica in combination with silane, which are both not part of our product portfolio. Historically, silica has offered some performance benefits over carbon black in the area of rolling resistance. To date, silica-based tire applications have gained position in passenger car tire treads. Although substitution has not been significant due to carbon black's cost advantage, technological advances and changing customer requirements may lead to increased demand for silica-based tires, especially in developed regions. Increased substitution and competition from precipitated silica producers could adversely affect our business, financial condition, results of operations and cash flows. If we should decide to include precipitated silica in combination with silane in our product portfolio in the future, we may be restricted in our ability to do so under our intellectual property sharing arrangements with Evonik.

Alternative materials, procedures or technologies may be developed, or existing ones may be improved, and may replace those currently offered in the carbon black industry. If such newly developed or improved products are being offered at lower prices, have preferable features or other advantages, in particular from a regulatory perspective, and we are not able to offer similar new or improved products, we may lose substantial sales volumes or customers, which could have an adverse effect on our business, financial condition, results of operations and cash flows.

We may be unable to implement our business strategies in an effective manner.

Our future financial performance and success largely depend on our ability to maintain our current competitive position and to implement our business strategies for growth successfully. We cannot guarantee that we will successfully implement our business strategies or that implementing these strategies will sustain or improve and not harm our results of operations. We may not be able to increase or sustain our manufacturing efficiency or asset utilization, enhance our current portfolio of products or achieve other fixed or variable cost savings. In addition, the costs involved in implementing our strategies may be significantly higher than we currently anticipate. Our ability to complete capacity expansions may be delayed or interrupted by the need to obtain environmental and other regulatory approvals, the availability of labor and materials, unforeseen hazards, such as weather conditions, adverse political or market developments, and other risks customarily associated with construction or expansion projects. Moreover, the cost of expanding capacity could have a negative impact on our financial results until capacity utilization is sufficient to absorb the incremental costs associated with the expansion. Further, labor or governmental restrictions could impede or delay our ability to reduce headcount in the event headcount reduction is deemed to be sensible in our opinion.

Our business strategies are based on our assumptions about future demand for our existing products and the new products and applications we are developing, and on our continuing ability to produce our products profitably. Each of these factors depends on, among other things, our ability to realign our product portfolio, divest businesses or discontinue product lines on favorable terms and with minimal disruptions, finance our operations and product development activities, negotiate favorable terms, maintain high-quality and efficient manufacturing operations, relocate and close certain manufacturing facilities with minimal disruption to our operations, respond to competitive and regulatory changes, access quality raw materials in a cost-effective and timely manner, and retain and attract highly skilled technical, managerial, marketing and finance personnel. Any failure to develop, revise or implement our business strategies in a timely and effective manner may adversely affect our business, financial condition, results of operations and cash flows.

We are subject to volatility in the costs, quality and availability of raw materials and energy, which could decrease our production volumes and margins and adversely affect our business, financial condition, results of operations and cash flows.

Our manufacturing processes consume significant amounts of raw materials and energy, the costs of which are subject to fluctuations in worldwide supply and demand as well as other factors beyond our control. The preponderance of the cost of raw material used in the production of carbon black is related to petroleum-based or coal-based feedstock known as carbon black oil, with some limited use of other raw materials, such as acetylene, nitrogen tetroxide, hydrogen and natural gas. We obtain a considerable portion of our raw materials and energy from selected key suppliers. Although we maintain raw material reserves, if any of these suppliers is unable to meet its obligations under supply agreements with us on a timely basis or at all, or if we cannot source sufficient supply, we may be forced to incur higher costs to obtain the necessary raw materials and energy elsewhere or, in certain limited cases, we may not be able to obtain carbon black oil or raw

materials at all. Additionally, raw material sourcing and related infrastructure (e.g. harbor access, cargo or ship availability, pipeline-, tank- or road-access), may be subject to local developments or regulations in certain jurisdictions where we operate that may reduce, delay or halt the physical supply of raw materials. Our inability to source quality raw materials or energy in a timely fashion and pass through cost increases to our customers could have an adverse impact on our business, financial condition, results of operations and cash flows.

Most of our carbon black supply contracts contain provisions that adjust prices to account for changes in a relevant feedstock price index. We are exposed to oil price fluctuations and there can be no assurance that we will be able to shift price risks to our customers. Success in offsetting increased raw material, energy and tax or tariff costs with related price increases is also influenced by competitive and economic conditions, as well as the speed and severity of such changes, and could vary significantly, depending on the segment served. Such increases may not be accepted by our customers, may not be fully reflected in the indices used in our pricing formulas, 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. Oil and energy price fluctuations have had and are likely to continue to have significant and varying effects on our earnings and results of operations, partly because oil price changes affect our sales prices and our cost of raw materials and energy at different times and amounts, and partly due to other factors, such as differentials affecting the ultimate carbon black oil price paid by us (versus a particular reference price index), carbon black oil usage amounts and ongoing efficiency initiatives, the value of which fluctuates with oil prices. Failure to fully offset the effects of fluctuating raw material or energy costs could have a material adverse effect on our business, financial condition, results of operations and cash flows. Further, volatility in costs and pricing could result in commercial disputes with suppliers and customers regarding the interpretations of complex contractual pricing arrangements, which could adversely affect our business.

Significant movements in the market price for crude oil tend to create volatility in our carbon black feedstock costs, which can affect our Net Working Capital, cash requirements and operating results. Changes in raw material and energy prices have a direct impact on our Net Working Capital levels. Increases in the cost of raw materials lead to an increase in our Net Working Capital. Due to the quantity of carbon black oil and finished goods that we typically keep in stock together with the levels of receivables and payables maintained, increases occur gradually over a two to three-month period but can vary depending on inventory levels and working capital levels generally. Net Working Capital swings are particularly significant in an environment of high price volatility.

Any failure to realize benefits from investments, joint ventures, acquisitions or alliances could adversely affect our business, financial condition, results of operations and cash flows.

We have made, and may continue to make, investments and acquisitions and enter into joint ventures. The success of acquisitions of existing facilities, new technologies, companies and products, or arrangements with third parties is not always predictable and we may not achieve our anticipated objectives.

Plant capacity expansions and site development projects may be delayed and/or may not achieve the expected benefits.

Our ability to complete capacity expansions and consolidations as planned, including capacity conversions from rubber carbon black to specialty carbon black and vice versa, and other site development projects, including those associated with yield efficiency improvements or emission controls, may be delayed, interrupted, or otherwise limited by the need to obtain environmental and other regulatory approvals, unexpected cost increases, availability of labor and materials, unforeseen hazards such as weather or health conditions, and other risks customarily associated with construction projects. In addition, lower oil prices may result in lower yield efficiency improvements. Moreover, the costs of these activities could have a negative impact on our results of operations and capacity utilization at any particular facility may not be able to absorb the incremental costs associated with capacity expansion projects. In addition, our ability to expand capacity in emerging countries 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.

The capital expenditures we might need to incur under the EPA consent decree remain uncertain; timing, locations, target levels and other factors could also affect our ability to meet target emission levels and target dates under the EPA consent decree.

On June 7, 2018, a consent decree (the "EPA CD") between Orion Engineered Carbons LLC and the United States on behalf of U.S. Environmental Protection Agency ("EPA"), as well as the Louisiana Department of Environmental Quality became effective. See "Note 5. Commitments and Contingencies" to the Company's audited financial statements included in this Annual Report on Form 10-K for a description of the EPA CD. We estimate the installations of monitoring and pollution control equipment at all four Orion plants in the U.S. will require capital expenditures in an approximate range between \$230 million to \$270 million subject to the results of further scope design and estimation efforts presently underway. However, the actual total capital expenditures we might need to incur in order to fulfill the requirements of the EPA CD remain uncertain. The solutions Orion ultimately chooses to implement at its facilities other than Ivanhoe (Louisiana) and Orange (Texas), may differ in scope and operation from those it currently anticipates for any and all of such facilities, and factors, such as timing, locations, target levels, changing cost estimates and local regulations, could cause actual capital expenditures to significantly exceed current expectations or affect Orion's ability to meet the agreed target emission levels or target dates for installing required equipment as anticipated or at all. Noncompliance with applicable emissions limits could lead to payments to the EPA or other penalties.

We may be subject to information technology systems failures, network disruptions, cybersecurity attacks and breaches of data security.

We rely on information technology systems to manage and operate our production facilities, business, process transactions, and to summarize our operating results. Our information technology systems are an important element for effectively operating our business. Information technology systems failures, particularly in connection with running SAP, including risks associated with upgrading or timely updating our systems, network disruptions, missuses, cybercrime and breaches of data security, could disrupt our production as well as our operations by impeding our processing of transactions, our ability to protect customer or company information and our financial reporting, and lead to increased costs. It is possible that future technological developments could adversely affect the functionality of our computer systems and require further action and substantial funds to prevent or repair computer malfunctions. Our information technology systems, including our back-up systems, are subject to damage or interruption from power outages, computer and telecommunications failures, computer viruses, cybercrime, internal or external security breaches, catastrophic events such as fires, earthquakes, floods, tornadoes, hurricanes, acts of war or terrorism, and usage errors by our employees or third-party providers. Although we have taken extensive steps to address these concerns by implementing sophisticated network security, back-up systems and internal control measures, there can be no assurance that a system failure or data security breach will not have a material adverse effect on our business, financial condition, results of operations and cash flows. If our information technology systems are damaged or cease to function properly, we may have to make a significant investment to fix or replace them, and we may suffer loss of critical data and interruptions or delays in our production and operations. Any material disruption in our information technology systems, or delays or difficulties in implementing or integrating new systems or enhancing current systems, could have an adverse effect on our business, financial condition or results of operations.

We also face global cybersecurity threats, which may range from uncoordinated individual attempts to sophisticated and targeted measures, known as advanced persistent threats, directed at us. Cybersecurity attacks and security breaches may include, but are not limited to, attempts to access information, computer viruses, denial of service and other electronic security breaches.

We believe that we face a moderate threat of cybersecurity attacks. We have experienced non-material cybersecurity attacks in the past, and may experience them in the future, potentially with more frequency or sophistication. Due to the evolving nature of cybersecurity threats, the scope and impact of any future incident cannot be predicted.

While we continually work to safeguard our systems and mitigate potential risks, there is no assurance that such actions will be sufficient to prevent cybersecurity attacks or security breaches that manipulate or improperly use our systems or networks, compromise confidential or otherwise protected information, destroy or corrupt data, or otherwise disrupt our operations. The occurrence of such events could negatively impact our reputation and our competitive position and could result in litigation with third parties, regulatory action, loss of business, potential liability and increased remediation costs, any of which could have a material adverse effect on our financial condition and results of operations. In addition, such attacks or breaches could require significant management attention and resources, and result in the diminution of the value of the Company's investment in research and development and other assets. A breakdown in existing controls and procedures around the Company's cybersecurity and security prevention environment may prevent us from detecting, reporting or responding to cybersecurity incidents in a timely manner and could have a material adverse effect on our financial condition or the market price of our securities.

In addition to supporting our operations, we use our systems to collect and store confidential and sensitive data, including information about our know-how, technology and business, as well as about our customers and our employees. As our technology continues to evolve, we anticipate that we will collect and store even more data in the future, and that our systems will increasingly use remote communication features that are sensitive to both willful and unintentional security breaches. Much of our value is derived from our confidential business information, including customer data, proprietary technology and trade secrets. To the extent the confidentiality of such information is compromised, we may lose our competitive advantage, and our business, financial condition, results of operations and cash flows may suffer. We also collect, retain and use personal information, including data we gather from customers for product development and marketing purposes, and data we obtain from employees. In the event of a breach in security that allows third parties access to this personal information, we are subject to a variety of laws on a global basis that require us to provide notification to the data owners, and that subject us to lawsuits, fines and other means of regulatory enforcement. Our reputation could suffer in the event of such a data breach, which could cause customers to purchase from our competitors. Ultimately, any compromise of our data security could have a material adverse effect on our business, financial condition, results of operations and cash flows.

If we are unable to successfully negotiate with the representatives of our employees, including labor unions and works councils, we may experience strikes and work stoppages.

We are party to collective bargaining agreements and social plans with our employees' labor unions. In particular, 73% of our employees are covered by collective bargaining agreements. We also are required to consult with our employee representatives, such as works councils, on certain matters such as restructuring, acquisitions and divestitures. Although we believe that our relations with our employees are good, there can be no assurance that current agreements may not be terminated, new agreements will be reached or consultations will

be completed without union or works council actions or on terms satisfactory to us. Current and future negotiations and consultations with employee representatives could have a material adverse effect on our business. In addition, a material work stoppage or union dispute could adversely affect our business, financial condition, results of operations and cash flows.

We may not be able to recruit or retain key management and personnel.

Our success is dependent on the management and leadership skills of our key management and personnel. The loss of any member of our key leadership team and personnel or an inability to attract, retain, develop and maintain additional personnel could prevent us from implementing our business strategy. The loss of one or more members of our key management or operating personnel, or the failure to attract, retain and develop additional key personnel, could have a material adverse effect on our business, financial condition, results of operations and cash flows.

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

We operate a global network of production plants, located in Europe, North America, South Korea, China, South Africa and Brazil. Accordingly, our business is subject to risks related to the different legal, political, social and regulatory requirements and economic conditions of many jurisdictions. Risks inherent in international operations include the following: changes in the rate of economic growth; unsettled political or economic conditions; expropriation or other governmental actions; social unrest, war, terrorist activities or other armed conflict; national and regional labor strikes; confiscatory taxation or other adverse tax policies, trade and or tariff disputes between countries; deprivation of contract rights; trade regulations affecting production, pricing and marketing of products; reduced protection of intellectual property rights; restrictions on the repatriation of income or capital; exchange controls; inflation, deflation, and currency fluctuations and devaluation; the effect of global environmental, health and safety issues; pandemics or epidemics; economic conditions, market opportunities and operating restrictions; changes in foreign laws and tax rates; changes in trade sanctions or embargoes that result in losing access to customers and suppliers in those countries; costs associated with compliance with anti-bribery and anti-corruption laws; nationalization of private enterprises by foreign governments; and changes in financial policy and availability of credit or financing sources. These factors could adversely affect our business, financial condition, results of operations and cash flows.

Legal and Regulatory Risks

Our operations are subject to environmental, health and safety regulations. We have been and may in the future be subject to investigations by regulatory authorities in respect of alleged violations and may incur significant costs to maintain compliance with, and to address liabilities under, these laws and regulations.

We are subject to extensive domestic, foreign, federal, state and local laws and regulations governing environmental protection and occupational health and safety, all of which may be subject to change in the future. The production and processing of carbon black and other chemicals we produce involve the handling, transportation, manufacture, use and disposal of substances or components that may pose environmental risks or be considered toxic, hazardous or carcinogenic under these laws. We are also required to obtain permits or other approvals from various regulatory authorities for our operations, which may be required for matters including air emissions; wastewater and storm water discharges; storage, handling and disposal of hazardous substances; remediation of soil or buildings and operation, maintenance and closure of landfills. If we violate, or are found to have violated or otherwise fail to comply with these laws, regulations or permits or other approvals, or fail to receive the timely renewal of and due application for required permits, we may have to limit production, incur fines or other sanctions, be required to undertake significant capital expenditures to achieve compliance, or be subject to other obligations by one or more regulatory authorities.

If environmental harm to soil, groundwater, surface water or natural resources is found to have occurred as a result of our current or historical operations, we may be required to incur significant remediation costs at our current or former production facilities or at third-party sites. Many of our facilities have a long history of operation, which may contribute to our environmental compliance and remediation costs due to past spills, chemical storage, wastewater treatment and waste disposal practices and other activities. For instance, many of our facilities have onsite landfills that have been in use for a number of years, and we may incur significant costs when these landfills reach capacity in order to close them in accordance with applicable laws and regulations and to address contamination of soil and groundwater at, under or migrating from the facilities, including costs to address impacts to natural resources. Under certain laws and regulations, the obligations to investigate and remediate contamination at a facility or site may be imposed on current and former owners or operators, or on persons who may have sent waste to that facility or site for disposal. Liability under such laws and regulations may be without regard to fault or to the legality of the activities giving rise to the contamination. As a result, we may incur liabilities for wastes, including hazardous wastes, generated by our operations and disposed of onsite or at offsite locations, even if we were not responsible for the disposal. Further, we may also incur additional closure and cleanup costs in connection with the closure of plants or separate feedstock storage sites, including costs relating to decommissioning of equipment, asbestos removal and closure of features such as storage tanks, wastewater treatment systems, ponds and landfills.

Our operations are also subject to significant hazards and risks inherent in storing carbon black oil and carbon black products. These hazards and risks include fires, explosions, spills, discharges and other releases, any of which could result in distribution difficulties and disruptions, environmental pollution, government imposed fines or clean up obligations, personal injury or wrongful death claims and other damage to our properties and the properties of others.

Environmental and safety regulations are subject to frequent change, as are the priorities of those who enforce them, and we could incur substantial costs to comply with future laws and regulations. The trend in environmental regulation is imposing increasingly stringent restrictions on activities that may affect the environment. Any new or amended environmental laws and regulations may result in costly measures for matters subject to regulation, including but not limited to more stringent limits or control requirements for our air emissions; new or increased compliance obligations relating to GHG emissions; stricter requirements for noise, waste handling, storage, transport, disposal, wastewater and storm water discharges; and more stringent cleanup and remediation standards, which, in each case, could have a material adverse effect on our operations and financial condition.

Certain national and international health organizations have classified carbon black as a possible or suspect 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 (iii) there is discovery of adverse health effects attributable to the 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, and our reputation and business could be adversely affected. In addition, chemicals that are currently classified as harmless may be classified as dangerous 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. See "Item 1. Business—Environmental, Health and Safety Matters."

Regulations requiring a reduction of or additional taxes of fees on greenhouse gas emissions could adversely affect our business, financial condition, results of operations and cash flows and increased awareness and adverse publicity about potential impacts on the climate change by us or other companies in our industry could harm our reputation.

Significant volumes of CO₂, a GHG, are emitted in carbon black manufacturing processes. Over the past few decades, concerns about the relationship between GHGs and global climate change have resulted in increased levels of scrutiny from regulators, investors and the public alike, and have led to proposed and enacted regulations on both national and supranational levels, to monitor, regulate, control and tax emissions of CO₂ and other GHGs. Investors have also begun to voice concern about sustainability and climate change as it relates to their investment decisions. Increased awareness in the investment community and any adverse publicity in the global marketplace about potential impacts on climate change by us or other companies in our industry could harm our reputation.

The international community continues to negotiate a binding treaty that would require reductions in GHG emissions by developed countries. In addition, a number of further measures addressing GHG emissions may be implemented, such as a successor international agreement, if any, to the Kyoto Protocol and the EU's proposal to consider raising its commitment to reduce carbon emissions by 20% to a 40% reduction by 2030 (compared to 1990 emission levels). The United Nations Conference on Climate Change in December 2015 led to the creation of the Paris Agreement and encourages countries to continuously review and improve their GHG emission reduction goals. While signing the Paris Agreement does not legally bind countries to reduce GHG emissions, countries that participate may respond by enacting legislation or regulations in order to progress in lowering GHG emissions. In the United States, Congress has from time to time considered legislation to reduce emissions of GHGs, but no comprehensive legislation has been enacted to date, and significant uncertainty currently exists as to how any such GHG legislation or regulations would impact large stationary sources, such as our facilities in Belpre (Ohio), Borger (Texas), Orange (Texas) and Ivanhoe (Louisiana), and what costs or operational changes these regulations may require in the future. There are currently no efforts within the U.S. Congress or the EPA to proceed with additional GHG regulations on a national level. However, almost one-half of the U.S. states have taken legal measures to reduce emissions of GHGs, primarily through the development of GHG emission inventories and/or regional or state GHG cap-and-trade programs. There are also ongoing discussions and regulatory initiatives in other countries, including in Brazil and South Korea where we have facilities, regarding GHG emission reduction programs, but those programs have not yet been defined. There is no assurance that, in the future, the current level of regulation will continue in the jurisdictions where we operate. In addition, several countries, including the EU, are currently evaluating further and more restrictive regulations to reduce GHG emissions.

Compliance with current or future GHG regulations governing our operations may result in significantly increased capital expenditures for measures such as the installation of more environmentally efficient technology or the purchase of allowances to emit CO₂ or other GHGs. While their potential effect on our manufacturing operations or financial results cannot be estimated, it could be substantial. There is no way to predict the form that future regulations may take or to estimate any costs that we may be required to incur with respect to these or any other future requirements. In addition to the increased expenditures outlined above, such requirements could also adversely affect our energy supply, or the costs (and types) of raw materials we use, and ultimately may directly or indirectly restrict our operations or

reduce demand for our products. The realization of any or all of these consequences could have a material adverse effect on our business, financial condition, results of operations and cash flows. See *"Item 1. Business—Environmental, Health and Safety Matters."*

Developing regulation of carbon black as a nano-scale material could require us to comply with costly new requirements.

Carbon black consists of aggregates of primary nano-scale particles. The EPA and other governmental agencies are currently developing a regulatory approach under which they will collect further data on nano-scale materials, including carbon black, under the Toxic Substances Control Act ("TSCA"). In addition, the EPA and other nations' environmental regulatory authorities, including the European Commission, are also conducting extensive environmental health and safety testing of nano-scale materials. If carbon black is found to be harmful to humans and/or to the environment, it could be subject to more stringent regulatory control, which could require us to incur significantly higher costs to comply with new environmental, health and safety laws and could adversely affect our reputation and business. See *"Item 1. Business—Environmental, Health and Safety Matters."*

Parallel to the TSCA, the European Commission is in the process of defining "nano-material". According to its recommendation of October 18, 2011 (2011/696/EU) carbon black is defined as a nano-material. In a similar approach, the International Organization for Standardization ("ISO") developed the ISO TC 229 "Nanotechnologies," which considers carbon black a "nano-structured material." The industry is not yet generally affected by these definitions. However, certain regulations regarding cosmetics applications or articles which are intended for food contact have already been implemented, and other regulations are being discussed which may affect the use of carbon black in the future. This development may significantly affect our business in a manner we cannot predict, including by increasing the costs of doing business or decreasing the marketability of our products.

Our operations have the potential to cause environmental and other damage as well as personal injury.

The operation of a chemical manufacturing business as well as the sale and distribution of chemical products involve safety, health and environmental risks. For example, the production and processing of carbon black and other chemicals involves the storage, handling, transportation, manufacture or use of certain substances or components that may be considered toxic or hazardous. Our manufacturing processes and the storage and transportation of chemical products entail risks such as leaks, fires, explosions, toxic releases or mechanical failures. If operational risks materialize, they could result in injury or loss of life, damage to the environment or damage to property. In addition, the occurrence of material operating problems at our facilities due to any of these hazards may result in loss of production, which, in turn, may make it difficult for us to meet customer needs. Accordingly, these hazards and their consequences could have a material adverse effect on our business, financial condition, results of operations and cash flows, both during and after the period of operational difficulties, and could harm our reputation.

The European Union REACH legislation or similar legislation in other countries may affect our ability to manufacture and sell certain products.

In December 2006, the EU signed the REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) legislation. This legislation requires chemical manufacturers and importers in the EU to demonstrate the safety of the chemical substances contained in their products through a substance registration process. We have registered under REACH, which is a functional prerequisite to the continued sale of our products in the EU markets. REACH presents a risk to the continued sale of our products in the EU should our existing classification registration no longer apply as a result of changes in the interpretation of REACH by the authorities, changes in our product mix or purity, or if the EU seeks to ban or materially restrict the production or importation of the chemical substances used in our products. In March 2016, the European Chemical Agency (ECHA) announced a carbon black substance evaluation, and carbon black was included in the Community Rolling Action Plan (CoRAP). CoRAP listed substances have been prioritized for substance evaluation. The reasons for including carbon black in CoRAP are carbon black being suspected of posing a risk to human health (carcinogenic, suspected reproduction toxicant), exposure of workers, exposure of sensitive populations and a high (aggregated) tonnage and use potential. The evaluation, which will be conducted by ANSES (the French Agency for Food, Environmental and Occupational Health & Safety), is scheduled to take place from 2020 to 2022 under the draft CoRAP (which is likely to be adopted in 2020). The outcome of the evaluation will be of significant importance for the carbon black industry.

Additionally, other organizations and countries, including South Korea and China, have adopted or may in the future adopt comparable or even more restrictive regulations than REACH, which could affect our ability to manufacture and sell certain products in the future.

In certain jurisdictions, carbon black has been added to lists of hazardous products that are subject to labeling and other requirements. Compliance with these requirements is required to sell our products in these jurisdictions, and noncompliance may result in material fines or penalties. Changes in the classification of carbon black on these lists or to the applicable regulations could result in more stringent or new requirements and adversely affect our compliance costs. See *"Item 1. Business—Environmental, Health and Safety Matters."*

Market and regulatory changes may affect our ability to sell or otherwise benefit from co-generated energy, which may adversely affect our business, results of operations and cash flows.

Currently, eight of our manufacturing sites have some form of co-generation transforming combustible exhaust gas, the main by-product of the carbon black production process, into electricity, steam or hot water. Some of this co-generated energy is self-consumed and the excess may be sold to third parties. Our ability to benefit from co-generation, and in particular our ability to sell it to third parties, may be limited due to general market conditions or regulatory changes, which may adversely affect our business, results of operations and cash flows.

In December 2013, the European Commission opened an in-depth investigation into certain exemptions from an energy surcharge granted under the German Renewable Energies Act (Erneuerbare-Energien-Gesetz or "EEG"). Under the EEG, energy intensive industries are exempted to a large extent from the energy surcharge that aims to balance above-market payments for green energy. Another exemption exists for the consumption of self-generated electricity. The German legislature amended the national regulations of the EEG in August 2014. Under new regulations, the exemption regarding self-consumption (*Eigenverbrauch*) of self-produced electricity is grandfathered for power plants that were installed before August 1, 2014. Our German production facilities are exempted from the energy surcharge under the current law to the extent that we consume our self-produced energy. However, a potential loss of this benefit due to a future change in legislation or a change in the material setup of any of our plants may adversely affect our business, results of operations and cash flows.

Litigation or legal proceedings could expose us to significant liabilities and thus adversely affect our business, financial condition, results of operations and cash flows.

From time to time, we may be involved in various claims and lawsuits arising in the ordinary course of our business. In particular, certain asbestos related claims have been filed with respect to time periods when Evonik and other preceding owners were in control of our business. Some of those claims are subject to a limited indemnity from Evonik under the agreements related to the Acquisition. Some matters are not covered by an indemnity and involve claims for large amounts of damages as well as other relief. Additional claims by (former) employees based on alleged past exposure to asbestos or other substances with negative health effects may be received in the future.

The outcome of legal proceedings is extremely difficult to predict and we offer no assurances in this regard. Adverse rulings, judgments or settlements in pending or future litigation, including employment-related litigation, contract litigation, intellectual property disputes, product liability claims, personal injury claims, claims based on alleged exposure to asbestos, chemicals or to carbon black, environmental permitting disputes or in connection with environmental remediation activities or contamination, could have an adverse effect on our business, financial condition, results of operations and cash flows.

Because many of our products provide critical performance attributes to our customers' applications and products, the sale of these products involves a risk of product liability claims against us, including claims arising in connection with the use of, or exposure to, our products. Our products have widespread end-uses in a variety of consumer industries. A successful product liability claim, or series of claims, arising out of these various uses that results in liabilities in excess of our insurance coverage or for which we are not indemnified or have not otherwise provided, could have a material adverse effect on our business, financial condition, results of operations and cash flows. In particular, we could be required to increase our debt or divert resources from other investments in our business in order to discharge any such liabilities.

We may not be able to protect our intellectual property rights successfully.

Our intellectual property rights are important to our success and competitive position. We own various patents and other intellectual property rights, and have licenses to use intellectual property rights covering some of our products as well as certain processes and product uses. We often choose not to seek to patent a production method or product in order to avoid disclosure of business specific know-how. In addition to patents, a significant part of our intellectual property are our trade secrets, general know-how and experience regarding manufacturing technology, plant operation and quality management, which third parties, including our competitors, may develop independently without violating our trade secret rights. We make careful assessments with respect to production process improvements and decide whether to apply for patents or retain and protect them as trade secrets. In some of the countries in which we operate or sell products, such as China, the laws protecting patent holders are significantly weaker than in the U.S., the EU and certain other regions. When we file a patent application, it is usually filed for all countries with active competition, where we have existing customers. Nonetheless, because the laws and enforcement mechanisms in some countries may not be as effective as in others, and because our intellectual property rights may, if asserted, ultimately be found to be invalid or unenforceable, we may not be able to protect all of our intellectual property rights successfully. Insufficient protection of intellectual property may limit our ability to make use of technological advantages or result in a reduction of future profits. This may cause competitive restrictions and may have an adverse effect on our business, financial condition, results of operations and cash flows.

We may also be subject to claims that our products, processes or product uses infringe or misappropriate the intellectual property rights of others. These claims, even if without merit, can be expensive and time consuming to litigate. If we were to suffer an adverse ruling, we

could be subject to injunctions, obligated to pay damages or enter into licensing agreements requiring royalty payments and use restrictions, all of which could adversely affect our business, financial condition, results of operations and cash flows. In addition, licensing agreements may not be available to us, and, if available, may not be available to us on acceptable terms.

In connection with the separation of our business from Evonik, Evonik assigned to us intellectual property that was exclusively used in its carbon black business as well as certain intellectual property rights that are still in use in its retained business. Evonik retained ownership of certain intellectual property that is not material to us. Evonik has granted us a non-exclusive license to use such retained intellectual property in the field of carbon black. In addition, we have granted back to Evonik licenses relating to some of our intellectual property rights to use such intellectual property in all fields outside the field of carbon black, which licenses are exclusive, subject to certain exceptions in areas adjacent to carbon black. Accordingly, we may be restricted in leveraging the intellectual property that we use on the basis of a license from Evonik or the intellectual property that is subject to the grant-back licenses to expand our business into fields outside of carbon black.

Risks Related to Indebtedness, Currency Exposure and Other Financial Matters

Our leverage may make it difficult for us to service our debt and operate our businesses.

We are leveraged with recurring debt service obligations and expect to continue to have comparable leverage for the foreseeable future. We may also incur more debt in the future. This may have negative consequences for our business and investors, including requiring that a substantial portion of the cash flows from our operations be dedicated to debt service obligations; reducing the availability of cash flows to fund internal growth through working capital, capital expenditures, other general corporate purposes and payments of dividends; increasing our vulnerability to economic downturns in our industry; exposing us to interest rate increases on our existing indebtedness and indebtedness that we may incur in the future; placing us at a competitive disadvantage compared to our competitors that have less debt in relation to cash flows; limiting our flexibility in planning for or reacting to changes in our business and our industry; restricting us from pursuing strategic acquisitions or exploiting certain business opportunities; and limiting, among other things, our ability to borrow additional funds or raise equity capital in the future and increasing the costs of such additional financings.

If our future cash flows from operations and other capital resources are insufficient to pay our obligations as they mature or to fund our liquidity needs, we may be forced to reduce or delay our business activities and capital expenditures, sell assets, obtain additional debt or equity financing, restructure or refinance all or a portion of our debt on or before maturity or reduce our dividend. In the worst-case scenario, an actual or impending inability to pay debts as they become due and payable could result in our insolvency or an insolvency of one or more of our subsidiaries.

Restrictive covenants in our debt instruments may limit our ability to operate our business. Our failure to comply with these covenants, including as a result of events beyond our control, could result in an event of default that may adversely affect our business, financial condition, results of operations and cash flows.

Our current debt instruments impose some operating and financial restrictions on us. These restrictions include limitations on our ability to, among other things, merge or consolidate with other companies; sell, lease, transfer or dispose of assets; pay dividends, redeem share capital or redeem or reduce subordinated indebtedness; and make acquisitions or investments. Our debt instruments contain covenants that may adversely affect our ability to finance our future operations and capital needs and to pursue available business opportunities. Our ability to comply with these provisions may be affected by changes in economic or business conditions or other events beyond our control. In addition, our debt instruments contain cross-default provisions such that a default under one particular financing arrangement could automatically trigger defaults under other financing arrangements and cause such indebtedness to become due and payable, together with accrued and unpaid interest. As a result, any default under an indebtedness to which we are party could result in a substantial loss to us and could adversely affect our business, financial condition, results of operations and cash flows.

A deterioration in our financial position or a downgrade of our ratings by a credit rating agency could increase our borrowing costs and our business relationships could be adversely affected.

A deterioration of our financial position or a downgrade of our credit ratings for any reason could increase our borrowing costs and have an adverse effect on our business relationships as well as on the payments and other terms agreeable with customers, suppliers and hedging counterparties. We may enter into various forms of hedging arrangements against currency, interest rate or oil price fluctuations. Financial strength and credit ratings are important to the availability and pricing of these hedging activities. As a result, any downgrade of our credit ratings may make it more costly for us to engage in these activities, and changes to our level of indebtedness may make it more difficult or costly for us to engage in these activities in the future.

In addition, a downgrade could adversely affect our existing financing, limit access to the capital or credit markets, or otherwise adversely affect the availability of other new financing on favorable terms, if at all, result in more restrictive covenants in agreements

governing the terms of any future indebtedness that we incur, increase our borrowing costs, or otherwise adversely affect our business, financial condition, results of operations and cash flows.

Fluctuations in foreign currency exchange and interest rates could adversely affect our business, financial condition, results of operations and cash flows.

We are exposed to market risks relating to fluctuations in foreign currency exchange and interest rates. Our results of operations may be affected by both the transaction effects and the translation effects of foreign currency exchange rate fluctuations. We are exposed to currency fluctuation when we convert currencies that we may receive for our products into currencies required to pay our debt, or into currencies in which we purchase raw materials, meet our fixed costs or pay for services, which could result in a gain or loss depending on fluctuations in exchange rates. Fluctuations in currency exchange rates could require us to reduce our prices to remain competitive in foreign markets. In each case, the relevant income or expense is reported in the relevant local currency and translated into U.S. Dollar at the applicable currency exchange rate for inclusion in our consolidated financial statements. Therefore, our financial results in any given period are materially affected by fluctuations in the value of the U.S. Dollar relative to other currencies, in particular the Euro, the Korean Won and Chinese Renminbi. In addition, certain of our outstanding debt obligations are denominated, pay interest in and must be repaid in Euro (and certain of our future debt obligations may be denominated in Euro), and therefore expose us to additional exchange rate risks. An appreciation of the Euro would make our financing under Euro-denominated instruments more expensive. We are also exposed to adverse changes in interest rates. We manage our foreign exchange risk through normal operating and financing activities and, when deemed appropriate, through the selective use of derivative transactions, the effectiveness of which is dependent, in part, upon the counterparties to these contracts honoring their financial obligations to us. We cannot be certain that we will be successful in reducing the risks inherent in exposures to foreign currency and interest rate fluctuations, and our financial results could be adversely affected.

From time to time, it may be necessary for us to enter into hedging arrangements to reduce the impact of price and exchange rate volatility. Unavailability or inefficiency of hedging could adversely affect our business, financial condition, results of operations and cash flows.

In the past, we have entered into certain hedging arrangements to reduce the impact of raw material and energy price volatility as well as interest rate and currency exchange rate fluctuations. It may be necessary for us to enter into hedging arrangements in the future to reduce the impact of raw material or energy price volatility or currency and exchange rate fluctuation, which may or may not be effective. The use of derivative hedging instruments is generally dependent on the availability of adequate credit lines with appropriate financial institutions. As a result, we could be unable to use derivative financial instruments in the future, to the extent necessary or on commercially reasonable terms, and any hedging strategy we employ could therefore be adversely affected. The effectiveness of our derivative hedging instruments will also depend on the relevant hedging counterparties honoring their financial obligations. Any failure by a hedging counterparty to perform its obligations could adversely affect our business, financial condition, results of operations and cash flows.

Disruptions in credit and capital markets may make it more difficult for us and our suppliers and customers to borrow money or raise capital.

Disruptions in the credit markets may result in less credit being made available by banks and other lending institutions. As a result, we may not be able to obtain financing for our business and acquisitions or to pursue other business plans or make necessary investments, which could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Furthermore, the inability of our customers to obtain credit facilities or capital market financing may adversely affect our business by reducing our sales and increasing our exposure to bad debt, while the inability of our suppliers to access adequate financing may adversely affect our business by increasing prices for raw materials, energy and transportation.

We may be required to impair or write off certain assets if our assumptions about future sales and profitability prove incorrect.

In analyzing the value of our inventory, property, plant and equipment, investments and intangible assets, we have made assumptions about future sales (prices and volume), costs and cash generation. These assumptions are based on management's best estimates and, if the actual results differ significantly from these assumptions, we may not be able to realize the value of the assets recorded, which could lead to an impairment or write-off of certain of these assets which could have a material adverse effect on our business, financial condition and results of operations.

We may be required to increase our pension fund contributions.

We have made pension commitments to our existing and some of our former employees. These commitments are partially covered by pension schemes, pension and benevolent funds and insurance policies some of which are maintained by previous employers. The amount of obligations is based on certain actuarial assumptions, including discount factors, life expectancy, pension trends and future salary development as well as expected interest rates applicable to the plan assets. Actual results deviating from these assumptions could result in a

considerable increase of our pension commitments and liabilities and higher allocations to the pension reserves in future years, which could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Our insurance coverage may not be adequate to cover all the risks we may face and it may be difficult to obtain replacement insurance on acceptable terms or at all.

Our plants, equipment and other assets are insured for property damage and business interruption risks, and our business as a whole is insured for public and products liability risks with reputable insurance companies. We believe these insurance policies are generally in accordance with customary industry practices, including deductibles and coverage limits. However, we cannot be fully insured against all potential hazards incident to our business, including losses resulting from war risks or terrorist acts, or all potential losses, including damage to our reputation. If we were to incur a significant liability for which we were not fully insured, it could have a material adverse effect on our business, financial condition, results of operations and cash flows.

As a result of market conditions, premiums and deductibles for certain insurance policies can increase substantially and, in some instances, certain insurance may become unavailable at a reasonable cost or available only for certain risks. We can provide no assurances that we would be able to obtain replacement insurance on acceptable terms or at all.

Significant changes in our jurisdictional earnings mix or in the tax laws of those jurisdictions, as well as changes in their interpretation, could adversely affect our business, financial condition, results of operations and cash flows.

Our future tax rates may be adversely affected by a number of factors, including the enactment of new tax legislation such as the U.S. tax reform, other changes in tax laws or the interpretation of such tax laws, changes in the estimated realization of our net deferred tax assets (arising, among other things, from tax loss carry forwards and the Acquisition), the jurisdictions in which profits are determined to be earned and taxed, adjustments to estimated taxes upon finalization of various tax returns, increases in expenses that are not deductible for tax purposes, including write-offs of acquired in process R&D and impairment of goodwill in connection with acquisitions, changes in available tax credits and additional tax or interest payments resulting from tax audits with various tax authorities. Losses for which no tax benefits can be recorded could materially impact our tax rate and its volatility from period to period. Any significant change in our jurisdictional earnings mix or in the tax laws in those jurisdictions, as well as changes in their interpretation, could increase our tax rates and adversely affect our financial results in those periods.

Our agreements with Evonik in connection with the Acquisition require us to indemnify Evonik with respect to certain aspects of our business and require Evonik to indemnify us for certain retained liabilities. We cannot offer assurance that we will be able to enforce claims under these indemnities as we expect.

In connection with the Acquisition, we agreed to indemnify Evonik with respect to future liabilities related to our business and Evonik agreed to indemnify us, subject to certain limitations, for certain liabilities that it agreed to retain. Our potential exposure for such liabilities could be significant. There can be no assurance that we will be able to enforce our claims under the indemnity from Evonik. Even if we ultimately succeed in recovering from Evonik any amounts for which we are held liable, we may be temporarily required to bear these losses ourselves. In addition, our ability to enforce claims under our indemnity from Evonik is dependent on Evonik's creditworthiness at the time we seek to enforce these claims, and there can be no assurance as to what Evonik's financial condition will be in the future. In particular, the agreement with Evonik provides for a partial indemnity from Evonik against various exposures, including, but not limited to, capital investments, fines and costs arising in connection with Clean Air Act violations that occurred prior to July 29, 2011. Almost all of the allegations made by the EPA with regard to Company's U.S. facilities relate to alleged violations before July 29, 2011. The indemnity provides for a recovery from Evonik of a share of the costs (including fines), expenses (including reasonable attorney's fees, but excluding costs for maintenance and control in the ordinary course of business and any internal cost of monitoring the remedy), liabilities, damages and losses suffered and is subject to various contractual provisions including provisions set forth in the 2011 Share Purchase Agreement with Evonik, such as a de minimis clause, a basket, overall caps (which apply to all covered exposures and all covered environmental exposures, in the aggregate), damage mitigation and cooperating requirements, as well as a statute of limitations provision. Due to the cost-sharing and cap provisions in Evonik's indemnity, we expect that substantial costs we will incur in the EPA enforcement initiative and its respective settlement could exceed the scope of the indemnity in the tens of millions of dollars. In addition, Evonik signaled that it is not honoring Orion's claims under the indemnity. In June 2019, Orion initiated arbitration proceedings to enforce its rights against Evonik. Evonik in turn has submitted certain counterclaims related to a tax indemnity and cost reimbursement against Orion, which counterclaims we do not believe to be material. Although Orion believes that it is entitled to the indemnity and that its rights thereunder are enforceable, there is no assurance that the Company will be able to recover costs or expenditures incurred under the indemnity as it expects or at all.

We could experience a material adverse effect on our financial condition if the tax authorities were to successfully challenge decisions and assumptions we have made in assessing and complying with our tax obligations.

We make, and have in the past made, numerous decisions and assumptions in assessing and complying with our tax obligations, including in respect of the tax treatment of the separation of our business from Evonik, the Acquisition, assumptions regarding the tax deductibility of certain interest expenses under German tax regulations, the upholding and recognition of our German tax group and the applicability of the regulations to our business as a group headquartered by a Luxembourg company. Many of the tax laws that apply to us, including tax laws that apply to the separation of our business from Evonik and the Acquisition, are complex and often require judgments to be made when the law is unclear or the facts are uncertain. While we believe the decisions we have made and the assumptions and practices we have applied are reasonable and accurate, we cannot guarantee that these decisions, assumptions and practices will not be questioned or rejected by the tax authorities. In particular, we are subject to tax audits for the period in which the Acquisition occurred by tax authorities in multiple jurisdictions worldwide, and in many cases these audits have not yet begun or have not been completed and could give rise to issues of this kind. If these tax authorities were to successfully challenge such decisions or assumptions, we could be required to pay additional amounts to such authorities to satisfy our tax obligations, which could have a material adverse effect on our business, financial condition, results of operations and cash flows. In particular, the German tax authorities are conducting their first audit of Orion Engineered Carbons GmbH following the Acquisition. Currently, we are unable to assess when this audit will be completed or the possible outcome of this audit. While currently we do not believe this audit will have a material adverse impact on our financial position, it could raise one or more issues of the kind referenced above.

Risks Related to Ownership of our Common Shares

We cannot assure investors that we will pay dividends on our common shares at historical rates or at all.

Our ability to pay dividends on our common shares at historical rates, or at all, is generally dependent on a proposal by our Board of Directors subject to approval by our shareholders and will depend on a number of factors, including, among others, our financial condition and results of future operations, growth opportunities and restrictive covenants in our debt instruments.

The rights of our shareholders may differ from the rights they would have as shareholders of a U.S. corporation, which could adversely affect trading in our common shares and our ability to conduct equity financings.

Our corporate affairs are governed by our Articles of Association and the laws of Luxembourg, including the Luxembourg Company Law. The rights of our shareholders and the responsibilities of our directors and officers under Luxembourg law are different from those applicable to a corporation incorporated in the U.S. Luxembourg laws may not be as extensive as those in effect in the U.S., and Luxembourg law and regulations in respect of corporate governance matters might not be as protective of minority shareholders as state corporation laws in the U.S. As a result, our shareholders may have more difficulty in protecting their interests in connection with actions taken by our directors and officers than they would as shareholders of a corporation incorporated in the U.S.

We are organized under the laws of Luxembourg and it may be difficult to obtain or enforce judgments or bring original actions against us or the members of our Board of Directors in the United States.

We are organized under the laws of Luxembourg and the majority of our assets are located outside the U.S. Furthermore, some of the members of our Board of Directors and officers reside outside the U.S. and a substantial portion of their assets are located outside the U.S. Investors may not be able to effect service of process within the U.S. upon us or these persons or to enforce judgments obtained against us or these persons in U.S. courts. Likewise, it may also be difficult for an investor to enforce in U.S. courts judgments obtained against us or these persons in courts located in jurisdictions outside the U.S., including judgments predicated upon the civil liability provisions of the U.S. federal securities laws. Awards of punitive damages in actions brought in the U.S. or elsewhere are generally not enforceable in Luxembourg.

As there is no treaty in force on the reciprocal recognition and enforcement of judgments in civil and commercial matters between the U.S. and Luxembourg, courts in Luxembourg will not automatically recognize and enforce a final judgment rendered by a U.S. court. The enforceability in Luxembourg courts of judgments rendered by U.S. courts will be subject to the procedure and the conditions set forth in the Luxembourg procedural code.

Litigation in Luxembourg is also subject to rules of procedure that differ from the U.S. rules, including with respect to the taking and admissibility of evidence, the conduct of the proceedings and the allocation of costs. For these reasons, it may be difficult for a U.S. investor to bring an original action in a Luxembourg court predicated upon the civil liability provisions of the U.S. federal securities laws against us, the members of our Board of Directors or our officers. In addition, even if a judgment is obtained against our Company, the non-U.S. members of our Board of Directors or our officers based on the civil liability provisions of the U.S. federal securities laws, a U.S. investor may not be able to enforce it in U.S. or Luxembourg courts.

Under our Articles of Association, we may indemnify our directors for and hold them harmless against all claims, actions, suits or proceedings brought against them, subject to limited exceptions. The right to indemnification does not exist in the case of gross negligence, fraud or wrongful misconduct. The rights and obligations among or between us and any of our current or former directors and officers are generally governed by the laws of Luxembourg and are subject to the jurisdiction of the Luxembourg courts, unless such rights or obligations do not relate to or arise out of such persons' capacities listed above. Although there is doubt as to whether U.S. courts would enforce this indemnification provision in an action brought in the U.S. under U.S. federal or state securities laws, this provision could make judgments obtained outside Luxembourg more difficult to enforce against our assets in Luxembourg or in jurisdictions that would apply Luxembourg law.

Luxembourg and European insolvency and bankruptcy laws are substantially different from U.S. insolvency laws and may offer our shareholders less protection than they would have under U.S. insolvency and bankruptcy laws.

We are subject to Luxembourg insolvency and bankruptcy laws. Should courts in another European country determine that the insolvency and bankruptcy laws of that country apply to us in accordance with and subject to such EU regulations, the courts in that country could have jurisdiction over the insolvency proceedings initiated against us. Insolvency and bankruptcy laws in Luxembourg or the relevant other European country, if any, may offer our shareholders less protection than they would have under U.S. insolvency and bankruptcy laws and make it more difficult for them to recover the amount they could expect to recover in a liquidation under U.S. insolvency and bankruptcy laws.

Item 1B. Unresolved Staff Comments

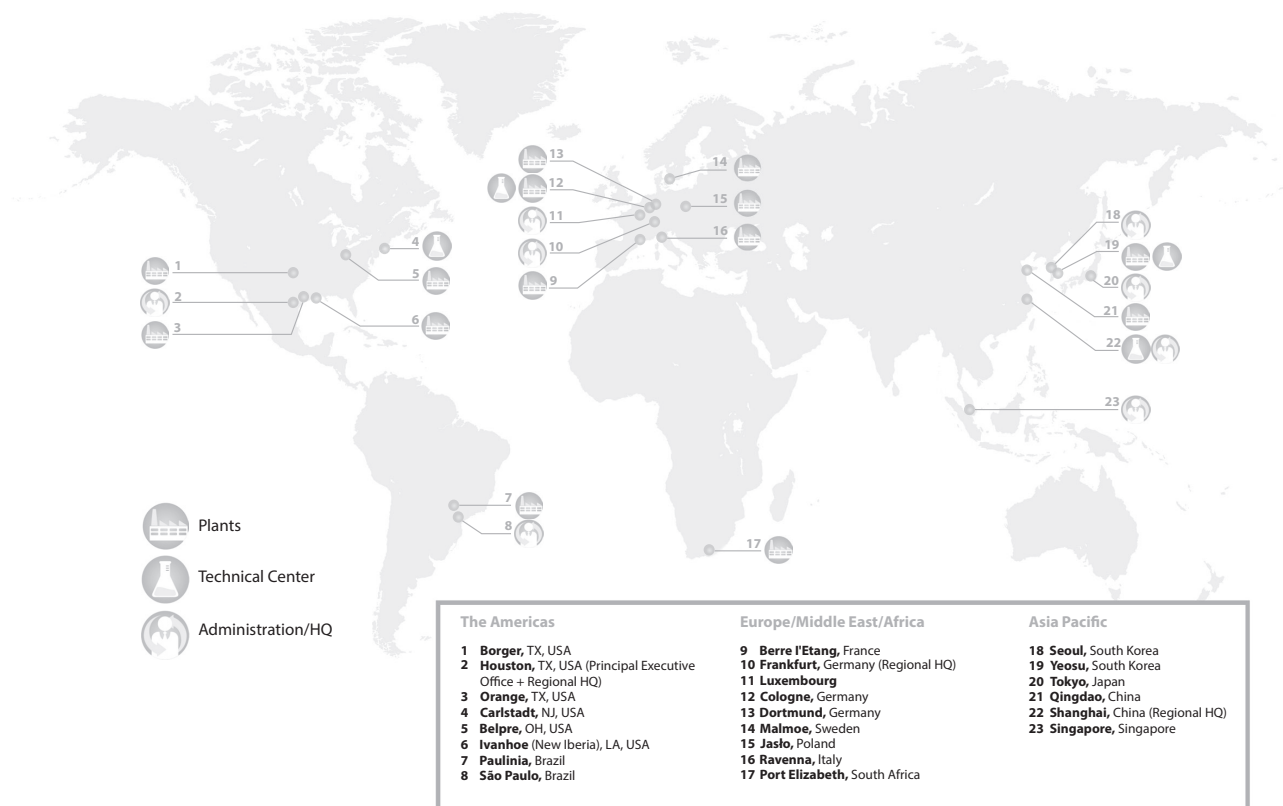
None

Item 2. Properties

Production Facilities

We currently operate a global platform of 13 wholly owned production facilities in Europe, North and South America, Asia and South Africa and three sales companies, as well as one jointly-owned production plant in Germany. All of our production plants are ISO 9001 (Quality Management) and ISO 14001 (Environmental Management) certified.

The following map provides an overview of the geographical footprint of our production network as of December 31, 2020:



Item 3. Legal Proceedings

We become involved from time to time in various claims and lawsuits arising in the ordinary course of our business, such as product related claims, liability claims, employment related claims and asbestos litigation. Some matters involve claims for large amounts of damages as well as other relief. With respect to our settlement of the EPA's enforcement initiative and the arbitration proceedings with Evonik related to respectively limited indemnities please see *Item 8. Financial Statements and Supplementary Data—Note S.—Commitments and Contingencies—Environmental Matters*. We believe, based on currently available information, that the results of the proceedings referenced above, in the aggregate, will not have a material adverse effect on our financial condition, but may be material to our operating results and cash flow for any particular period when the relevant costs are incurred. We note that the outcome of legal proceedings is inherently uncertain, and we offer no assurances as to the outcome of any of these current or future matters or their effect on the Company.

Item 4. Mine Safety Disclosures

Not applicable

Part II

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

Our common stock is listed on the New York Stock Exchange ("NYSE") under the symbol "OEC". As of February 9, 2021, the closing price of our common stock on the NYSE was \$17.61, and we had nine stockholders of record.

During the fiscal year ended December 31, 2020, we did not sell any equity securities that were not registered under the Securities Act.

From time to time, we may repurchase our common stock in the open market pursuant to programs approved by our Board. During fiscal years ended December 31, 2020 and 2019, we did not repurchase any shares of our common stock.

The information required by Item 201(d) of Regulation S-K is incorporated by reference to the Proxy Statement (as defined in Item 10 below) under the heading "Equity Compensation Plan Information at December 31, 2020."

Dividend Policy

In accordance with the Luxembourg Company Law, the general meeting of shareholders has the power to make a resolution on the payment of dividends upon the recommendation of the Board of Directors. In deciding whether to recommend any future dividend, the Board of Directors would take into account any legal or contractual limitation, our actual and anticipated future earnings, cash flows, debt service and capital requirements, our business plans and such other matters as the Board of Directors believes appropriate, in its discretion. Generally, any dividend approved by a general meeting of shareholders would be paid out shortly after the meeting.

During the fiscal year 2020, our board of directors declared dividends of \$0.20 per common share for the quarter ended March 31, 2020, equivalent to a total distribution of \$12.0 million. Declaration of and payments of dividends were suspended for the remainder of the year as a result of the soft global business environment due to COVID-19. Luxembourg withholding tax at a rate of 15% was deducted from the dividends, subject to certain exemptions and reductions in certain circumstances.

Item 6. Selected Financial Data

The following tables set forth selected historical financial information for fiscal years December 31, 2020, 2019, 2018, 2017 and 2016 and as of December 31, 2020, 2019, 2018, 2017 and 2016. The financial information for fiscal years 2020, 2019 and 2018 and balance sheet information as of December 31, 2020 and 2019 has been derived from our audited consolidated financial statements included elsewhere in this report. The balance sheet information as of December 31, 2018 and financial information for fiscal year 2017 has been derived from our audited consolidated financial statements included in our Annual Report for the year ended December 31, 2019 on Form 10-K, filed with the Securities and Exchange Commission (the "SEC"). The balance sheet information as of December 31, 2017 and 2016 and the financial information for fiscal year 2016 has been derived from our audited consolidated financial statements included in our Annual Report for the year ended 2018 on Form 20-F, filed with the SEC. This information should be read in conjunction with the consolidated financial statements included elsewhere in this report, the related notes and other financial information included herein, and financial information previously filed with or furnished to the SEC.

Consolidated Statements of Operations Data

Year Ended December 31,

	2020	2019	2018	2017	2016
	(In millions, except per share amounts)				
Net sales	\$1,136.4	\$1,476.4	\$1,578.2	\$1,328.3	\$1,139.3
Cost of sales	844.0	1,086.6	1,148.2	950.7	764.9
Gross profit	292.3	389.7	430.0	377.6	374.4
Selling, general and administrative expenses	176.1	206.9	231.9	207.5	202.5
Research and development costs	20.2	19.9	20.3	18.2	16.1
Other expenses, net	14.1	12.2	6.1	7.6	9.0
Restructuring income	—	—	40.3	—	—
Restructuring expenses	7.6	3.6	15.6	6.5	30.0
Income from operations	74.4	147.2	196.3	137.9	116.8
Interest and other financial expense, net	38.7	27.6	28.6	44.1	43.3
Reclassification of actuarial losses from AOCl	9.9	—	—	9.7	0.1
Income from operations before income tax expense and equity in earnings of affiliated companies	25.8	119.6	167.7	84.0	73.4
Income tax expense	8.1	33.2	46.9	19.7	24.4
Equity in earnings of affiliated companies, net of tax	0.5	0.6	0.6	0.5	0.5
Net income	\$ 18.2	\$ 86.9	\$ 121.3	\$ 64.9	\$ 49.5
Earnings per share - basic	\$ 0.30	\$ 1.45	\$ 2.04	\$ 1.09	\$ 0.83
Earnings per share - diluted	\$ 0.30	\$ 1.42	\$ 1.99	\$ 1.07	\$ 0.82
Dividends per share	\$ 0.20	\$ 0.80	\$ 0.80	\$ 0.77	\$ 0.74

Statement of Cash Flows Data

Year Ended December 31,

	2020	2019	2018	2017	2016
	(In millions)				
Net cash provided by operating activities	\$ 125.3	\$ 231.5	\$ 122.0	\$ 147.7	\$ 177.4
Net cash used in investing activities	(144.9)	(155.8)	(88.1)	(90.3)	(68.5)
Net cash provided by (used in) financing activities	13.5	(68.6)	(43.8)	(68.5)	(101.8)

Balance Sheet Data

Year Ended December 31,

	2020	2019	2018	2017	2016
	(In millions)				
Cash and cash equivalents	\$ 64.9	\$ 63.7	\$ 57.0	\$ 72.3	\$ 77.9
Property, plant and equipment	610.5	534.1	483.5	462.1	409.9
Total assets	1,389.8	1,257.4	1,273.0	1,164.4	1,055.5
Total liabilities	1,208.8	1,071.4	1,114.1	1,069.1	1,000.8
Total stockholders' equity ⁽¹⁾	181.0	186.0	158.9	95.3	54.7

(1) Our share capital as of December 31, 2020 is denominated in Euro and was €60,992,259 (a USD-equivalent amount of \$74,843,601, respectively, applying a closing rate of 1.2271 US-Dollar per 1 Euro), represented by 60,992,259 common shares with no par value of which 505,142 common shares are held in treasury.

The following tables present a reconciliation of the non-GAAP measure Adjusted EBITDA to net income (See “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations—Reconciliation of Non-GAAP Financial Measures” for further details on non-GAAP measures):

	Year Ended December 31,				
	2020	2019	2018	2017	2016
	(In millions)				
Net income	\$ 18.2	\$ 86.9	\$ 121.3	\$ 64.9	\$ 49.5
Add back income tax expense	8.1	33.2	46.9	19.7	24.4
Add back equity in earnings of affiliated companies, net of tax	(0.5)	(0.6)	(0.6)	(0.5)	(0.5)
Income from operations before income taxes and equity in earnings of affiliated companies	25.8	119.6	167.7	84.0	73.4
Add back interest and other financial expense, net	38.7	27.6	28.6	44.1	43.3
Reclassification of actuarial losses from AOCL	9.9	—	—	9.7	0.1
Earnings before income taxes and finance income/costs	74.4	147.2	196.3	137.9	116.8
Add back depreciation, amortization and impairment of intangible assets and property, plant and equipment	96.5	96.7	98.2	98.4	97.1
EBITDA	170.9	243.9	294.5	236.2	214.0
Equity in earnings of affiliated companies, net of tax	0.5	0.6	0.6	0.5	0.5
Restructuring expenses/(income)	7.6	3.6	(24.6)	5.2	19.8
Consulting fees related to Company strategy	—	1.3	4.8	2.8	2.8
Extraordinary expense items related to COVID-19	3.9	—	—	—	—
Long term incentive plan	4.4	9.4	13.9	8.8	4.0
EPA-related expenses	5.2	4.0	2.7	2.4	4.6
Other adjustments	7.6	4.6	2.3	0.9	1.2
Adjusted EBITDA	\$ 200.0	\$ 267.3	\$ 294.1	\$ 257.0	\$ 246.7

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

The following discussion and analysis summarize the significant factors affecting our results of operations and financial condition during the years ended December 31, 2020, 2019 and 2018 and should be read in conjunction with the information included under *Item 1. Business* and *Item 8. Financial Statements and Supplementary Data* included elsewhere in this Annual Report. We prepare our financial statements in accordance with accounting principles generally accepted in the United States and in US Dollars.

Overview

In 2020, we generated revenue of \$1,136.4 million on volumes of 866.8 kmt, resulting in net income of \$18.2 million, and Adjusted EBITDA of \$200.0 million. Adjusted EBITDA for our Specialty Carbon Black segment was \$109.9 million, and the Segment Adjusted EBITDA Margin was 24.7%. This segment accounted for 39.2% of our total revenue, 54.9% of total Adjusted EBITDA and 26.8% of our total volume in kmt in 2020. Adjusted EBITDA for our Rubber Carbon Black segment was \$90.1 million, and Segment Adjusted EBITDA Margin was 13.0%. This segment accounted for 60.8% of our total revenue, 45.1% of total Adjusted EBITDA and 73.2% of our total volume in kmt in 2020.

Key Factors Affecting Our Results of Operations

We believe that certain factors have had, and will continue to have, a material effect on our results of operations and financial condition. As many of these factors are beyond our control and certain of these factors have historically been volatile, past performance will not necessarily be indicative of future performance and it is difficult to predict future performance with any degree of certainty. In addition, important factors that could cause our actual results of operations or financial conditions to differ materially from those expressed or implied below, include, but are not limited to, factors indicated under “Item 1A. Risk Factors”, and “Note Regarding Forward-Looking Statements” of this report.

Recent Developments and Certain Known Trends

COVID-19

In March 2020, the World Health Organization declared the outbreak of COVID-19 to be a global pandemic and recommended containment and mitigation measures worldwide. COVID-19 has spread through Asia, Europe, and North and South America, all regions in which we have operations. In response, government authorities have issued an evolving set of mandates, including requirements to shelter-in-place, curtail business operations, restrict travel, and avoid physical interaction. These mandates and the continued spread of COVID-19 have disrupted normal business activities in many segments of the global economy, resulting in weakened economic conditions. In some areas around the world, government mandates have been lifted by certain public authorities and economic conditions have improved in certain sectors of the economy relative to early in the second quarter. Meanwhile, some regions have experienced increasing numbers of COVID-19 cases, and if this continues and if public authorities intensify efforts to contain the spread of COVID-19, normal business activity may be further disrupted and economic conditions could weaken.

We continue to monitor the impact of the outbreak of COVID-19 on our business, including how it may impact our customers, employees, supply chain and distribution network and to take action, as appropriate, to address these circumstances.

Our manufacturing facilities generally have continued to operate since the pandemic was declared in early March 2020, with most sites experiencing only relatively brief or no suspensions of activity. While COVID-19 did not have a significant effect on our reported results for the first quarter of 2020, it had a more pronounced effect on our business during the second quarter, primarily as a result of reduced demand in our end markets. The third and fourth quarters of 2020 saw the favorable business momentum initially experienced in the latter part of the second quarter continue, with broad-based improvement in demand. Nevertheless, we may be required to take further actions to comply with mandates of national, state or local authorities and may take additional actions that we determine to be in the best interests of our employees, customers, suppliers and other stakeholders, which could disrupt or restrict our ability to operate our facilities and travel to our domestic and international sites. The extent to which our operations may be impacted by COVID-19 during the remainder of the pandemic depends on a variety of factors, including the duration, severity, and scope of the pandemic, which remain highly uncertain.

General Economic Conditions, Cyclicity and Seasonality

Our results of operations are affected by worldwide economic conditions. Because carbon black is used in a diverse group of end products, demand for carbon black has historically been related to real GDP and general global economic conditions. In particular, a large part of our sales has direct exposure to the cyclical automotive industry and, to a lesser extent, the construction industry. As a result, our results of operations experience a level of inherent cyclicity. The nature of our business and our large fixed asset base make it difficult to rapidly adjust our fixed costs downward when demand for our products declines, which materially affects our results of operations.

Reconciliation of Non-GAAP Financial Measures

We use Contribution Margin and Adjusted EBITDA as supplemental measures of our operating performance. Contribution Margin and Adjusted EBITDA presented in this Management Discussion and Analysis have not been prepared in accordance with GAAP or the accounting standards of any other jurisdiction. Other companies may use similar non-GAAP financial measures that are calculated differently from the way we calculate these measures. Accordingly, our Contribution Margin and Adjusted EBITDA may not be comparable to similar measures used by other companies and should not be considered in isolation, or construed as substitutes for revenue, consolidated net income for the period, income from operations (EBIT), gross profit and other GAAP measures as indicators of our results of operations in accordance with GAAP.

Contribution Margin and Contribution Margin per Metric Ton (Non-GAAP Financial Measures)

We calculate Contribution Margin by subtracting variable costs (such as raw materials, packaging, utilities and distribution costs) from our revenue. We believe that Contribution Margin is useful because we see this measure as indicating the portion of revenue that is not consumed by such variable costs and therefore contributes to the coverage of all other costs and profits. The following table reconciles Contribution Margin and Contribution Margin per Metric Ton to gross profit:

	Year Ended December 31,		
	2020	2019	2018
	unaudited (in millions, unless otherwise indicated)		
Revenue ⁽¹⁾	\$ 1,136.4	\$ 1,476.4	\$ 1,578.2
Variable costs ⁽²⁾	(672.5)	(935.7)	(1,000.6)
Contribution margin	463.9	540.7	577.6
Freight	68.8	79.0	87.7
Fixed Costs ⁽³⁾	(240.4)	(229.8)	(235.4)
Gross profit⁽¹⁾	\$ 292.3	\$ 389.9	\$ 430.0
Volume (in kmt)	866.8	1,023.2	1,084.7
Contribution margin per metric ton	\$ 535.1	\$ 528.5	\$ 532.6
Gross profit per metric ton	\$ 337.3	\$ 380.9	\$ 396.4

(1) Separate line item in audited Financial Statements.

(2) Includes costs such as raw materials, packaging, utilities and distribution.

(3) Includes costs such as depreciation, amortization and impairment of intangible assets and property, plant and equipment, personnel and other production related costs.

Adjusted EBITDA (Non-GAAP Financial Measure)

We define Adjusted EBITDA as income from operations (EBIT) before depreciation and amortization, adjusted for acquisition related expenses, restructuring expenses, consulting fees related to Company strategy, share of profit or loss of joint venture and certain other items. Adjusted EBITDA is defined similarly in our Credit Agreements. Adjusted EBITDA is used by our management to evaluate our operating performance and make decisions regarding allocation of capital because it excludes the effects of items that have less bearing on the performance of our underlying core business.

Our use of Adjusted EBITDA has limitations as an analytical tool, and should not be considered in isolation or as a substitute for analysis of our financial results as reported under GAAP. Some of these limitations are: (a) although Adjusted EBITDA excludes the impact of depreciation and amortization, the assets being depreciated and amortized may have to be replaced in the future and thus the cost of replacing assets or acquiring new assets, which will affect our operating results over time, is not reflected; (b) Adjusted EBITDA does not reflect interest or certain other costs that we will continue to incur over time and will adversely affect our profit or loss, which is the ultimate measure of our financial performance and (c) other companies, including companies in our industry, may calculate Adjusted EBITDA or similarly titled measures differently. Because of these and other limitations, Adjusted EBITDA should be considered alongside our other GAAP-based financial performance measures, such as revenue, consolidated net income for the period or income from operations (EBIT).

The following table presents a reconciliation of Adjusted EBITDA to consolidated net income for each of the periods indicated:

	Year Ended December 31,		
	2020	2019	2018
	(in \$ millions)		
Net income	\$ 18.2	\$ 86.9	\$ 121.3
Add back income tax expense	8.1	33.2	46.9
Add back equity in earnings of affiliated companies, net of tax	(0.5)	(0.6)	(0.6)
Income from operations before income taxes and equity in earnings of affiliated companies	25.8	119.6	167.7
Add back interest and other financial expense, net	38.7	27.6	28.6
Reclassification of actuarial losses from AOCI	9.9	—	—
Earnings before income taxes and finance income/costs	74.4	147.2	196.3
Add back depreciation, amortization and impairment of intangible assets and property, plant and equipment	96.5	96.7	98.2
EBITDA	170.9	243.9	294.5
Equity in earnings of affiliated companies, net of tax	0.5	0.6	0.6
Restructuring expenses/(income) ⁽¹⁾	7.6	3.6	(24.6)
Consulting fees related to Company strategy ⁽²⁾	—	1.3	4.8
Extraordinary expense items related to COVID-19 ⁽³⁾	3.9	—	—
Long term incentive plan	4.4	9.4	13.9
EPA-related expenses	5.2	4.0	2.7
Other adjustments ⁽⁴⁾	7.6	4.6	2.3

	Year Ended December 31,		
	2020	2019	2018
	(in \$ millions)		
Adjusted EBITDA	\$ 200.0	\$ 267.3	\$ 294.1
<i>Thereof Adjusted EBITDA Specialty Carbon Black</i>	\$ 109.9	\$ 122.2	\$ 149.3
<i>Thereof Adjusted EBITDA Rubber Carbon Black</i>	\$ 90.1	\$ 145.2	\$ 144.9

- (1) Restructuring expenses for the periods ended December 31, 2020 and 2019 were related to the strategic restructuring of our worldwide Rubber footprint, Restructuring income in the period ended December 31, 2018 is primarily due to a gain recognized from the land sale in the restructuring of our South Korea footprint. See *Item 8. Financial Statements and Supplementary Data—Note O.—Restructuring Expenses* for additional information.
- (2) Consulting fees related to the Orion strategy include external consulting for establishing and executing Company strategies relating to Rubber footprint realignment, conversion to U.S. dollar and U.S. GAAP, and costs relating to our assessment of feasibility for inclusion in certain U.S. indices.
- (3) Extraordinary expense items related to COVID-19 reflect costs incurred to address impacts associated with the global coronavirus pandemic. These items include select production costs, expenses related to providing personal protection equipment and costs related to protective measures carried out at our facilities to ensure the safety of our employees, among other expenditures.
- (4) Other adjustments (from items with less bearing on the underlying performance of the Company's core business) in the period ended December 31, 2020 mainly relate to legal fees associated with a dispute concerning intellectual property of \$2.7 million, severance costs of \$1.5 million, and hurricane related costs of \$2.5 million. Other adjustments in the period ended December 31, 2019 mainly relate to an amount of \$2.9 million in non-income tax expense incurred during the construction phase of an asset. Other adjustments in the period December 31, 2018 were primarily related to personnel costs.

Operating Results

2020 Compared to 2019

The table below presents our historical results derived from our consolidated financial statements for the periods indicated.

Statement of operations data	Year Ended December 31,	
	2020	2019
	(In millions)	
Net sales	\$ 1,136.4	\$ 1,476.4
Cost of sales	844.0	1,086.6
Gross profit	292.3	389.7
Selling, general and administrative expenses	176.1	206.9
Research and development costs	20.2	19.9
Other expenses, net	14.1	12.2
Restructuring expenses	7.6	3.6
Income from operations	74.4	147.2
Interest and other financial expense, net	38.7	27.6
Reclassification of actuarial losses from AOCI	9.9	—
Income from operations before income tax expense and equity in earnings of affiliated companies	25.8	119.6
Income tax expense	8.1	33.2
Equity in earnings of affiliated companies, net of tax	0.5	0.6
Net income	\$ 18.2	\$ 86.9

Net sales

Net sales decreased overall by \$340.0 million, or 23.0%, from \$1,476.4 million in 2019 to \$1,136.4 million in 2020. Volumes declined by 15.3%, or 156.3 kmt to 866.8 kmt, primarily by weakness in the North America and Europe regions of our Rubber Carbon Black business as a result of the global economic impact of COVID-19. The volume and oil price declines impacted net sales by approximately \$214.4 and \$148.4 million, respectively, partially offset by certain base price increases.

Cost of sales and Gross profit

Cost of sales decreased by \$242.6 million, or 22.3%, from \$1,086.6 million in 2019 to \$844.0 million in 2020. Volume declines of 15.3% and lower oil prices were the primary drivers and contributed \$70.1 million and \$216.0 million, respectively, to the decrease.

Selling, general and administrative expenses

Selling, general and administrative expenses decreased by \$30.7 million, or 14.9%, from \$206.9 million in 2019 to \$176.1 million in 2020 driven primarily by lower freight costs due to decreased volumes as a result of the effects of COVID-19, lower selling expenses and the implementation of cost reduction initiatives.

Research and development costs

R&D expenses were essentially flat with \$20.2 million in 2020 compared to \$19.9 million in 2019.

Other expenses, net

Other expenses, net which comprises other operating income and other operating expenses, increased to \$14.1 million in 2020 from \$12.2 million in 2019. The primary driver for the increase of \$1.9 million were additional expenses incurred due to COVID-19.

Restructuring expenses/(income), net

In 2020 restructuring expenses increased to \$7.6 million compared to 2019 primarily due to increased ground remediation costs related to the plant closing in Ambes, France. See *Item 8. Financial Statements and Supplementary Data—Note O.—Restructuring Expenses* for additional information.

Interest and other financial expense, net

Interest and other financial expense, net comprises interest and other financial income and interest and other financial expenses. Interest and other financial expense, net amounted to \$38.7 million in 2020 compared to \$27.6 million in 2019. The increase of \$11.1 million was primarily due to losses on foreign currency translation and the exit of cross currency swaps.

Income tax expense

Income tax expense amounted to \$8.1 million in 2020 compared to \$33.2 million in 2019, as a result of decreased income before taxes.

In 2020, the effective tax rate was in line with the expected Company rate. Unfavorable impacts from non-deductible business expenses, pre-tax earnings mix by jurisdiction and valuation adjustments of deferred tax assets primarily associated with the economic downturn related to COVID-19 were offset by the benefit from the reduction in the valuation allowance related to U.S. tax credits of \$3.6 million. For details regarding this deviation, see *Item 8. Financial Statements and Supplementary Data—Note R.—Income Taxes* to the audited consolidated financial statements.

In 2019, the effective tax rate deviated from the expected Company rate primarily due to the favorable effects from tax rate differentials and income taxes for prior years. For details regarding this deviation, see *Item 8. Financial Statements and Supplementary Data—Note R.—Income Taxes* to the audited consolidated financial statements.

Equity in earnings of affiliated companies, net of tax

Equity in earnings of affiliated companies represents the equity income from our German JV, which was comparable in 2020 and 2019.

Contribution Margin and Contribution Margin per Metric Ton (Non-GAAP Financial Measures)

Contribution Margin decreased by \$76.8 million, or 14.2%, from \$540.7 million in 2019 to \$463.9 million in 2020, primarily due to lower volumes with an impact of approximately \$70.1 million. Contribution Margin per Metric Ton increased slightly by 1.3%, from \$528.5 per Metric Ton in 2019 to \$535.1 per Metric Ton in 2020.

Adjusted EBITDA (Non-GAAP Financial Measure)

Adjusted EBITDA decreased by \$67.3 million, or 25.2%, from \$267.3 million in 2019 to \$200.0 million in 2020 primarily as a result of lower net income year over year.

2019 Compared to 2018

We refer to our annual report 2019 filed with the SEC on Form 10-K. The comparison of the fiscal years ended December 31, 2019 and 2018 can be found in our annual report on Form 10-K for the fiscal year ended December 31, 2019 located within Part II, Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations".

Segment Discussion

Our business operations are divided into two operating segments: the Specialty Carbon Black segment and the Rubber Carbon Black segment. We use segment revenue, segment gross profit, segment volume, Segment Adjusted EBITDA and Segment Adjusted EBITDA Margin as measures of segment performance and profitability.

The table below presents our segment results derived from our audited consolidated financial statements for 2020, 2019 and 2018.

	Year Ended December 31,		
	2020	2019	2018
	(In millions, unless otherwise indicated)		
Specialty Carbon Black			
Net sales.....	\$ 445.2	\$ 508.5	\$ 545.4
Cost of sales.....	(296.5)	(338.0)	(346.0)
Gross profit	\$ 148.7	\$ 170.4	\$ 199.4
Volume (kmt) ⁽¹⁾	232.0	251.0	262.4
Adjusted EBITDA.....	\$ 109.9	\$ 122.2	\$ 149.3
Adjusted EBITDA Margin(%) ⁽²⁾	24.7	24.0	27.4
Rubber Carbon Black			
Net sales.....	\$ 691.2	\$ 967.9	\$ 1,032.8
Cost of sales.....	(547.5)	(748.6)	(802.2)
Gross profit	\$ 143.6	\$ 219.3	\$ 230.6
Volume (kmt) ⁽¹⁾	634.9	772.1	822.3
Adjusted EBITDA.....	\$ 90.1	\$ 145.2	\$ 144.9
Adjusted EBITDA Margin(%) ⁽²⁾	13.0	15.0	14.0

(1) Unaudited.

(2) Defined as Adjusted EBITDA divided by net sales.

Specialty Carbon Black

2020 Compared to 2019

Net sales of the Specialty Carbon Black segment decreased by \$63.2 million, or 12.4%, from \$508.5 million in 2019 to \$445.2 million in 2020, primarily due to lower volumes and the effects of lower feedstock costs passed through to customers, partially offset by base price increases.

Volume of the Specialty Carbon Black segment decreased by 19.1 kmt, or 7.6%, from 251.0 kmt in 2019 to 232.0 kmt in 2020, driven primarily by lower demand in the North America and European markets.

Gross profit of the Specialty Carbon Black segment decreased by \$21.7 million, or 12.7%, from \$170.4 million in 2019 to \$148.7 million in 2020, primarily as a result of lower volumes.

Adjusted EBITDA of the Specialty Carbon Black segment decreased by \$12.3 million, or 10.0%, from \$122.2 million in 2019 to \$109.9 million in 2020, primarily reflecting the decrease in gross profit.

2019 Compared to 2018

We refer to our annual report 2019 filed with the SEC on Form 10-K. The comparison of the fiscal years ended December 31, 2019 and 2018 can be found in our annual report on Form 10-K for the fiscal year ended December 31, 2019 located within Part II, Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations".

Rubber Carbon Black

2020 Compared to 2019

Net sales of the Rubber Carbon Black segment decreased by \$276.7 million, or 28.6%, from \$967.9 million in 2019 to \$691.2 million in 2020, primarily due to lower volumes and the effects of lower feedstock costs passed through to customers.

Volume of the Rubber Carbon Black segment decreased by 137.2 kmt, or 17.8%, from 772.1 kmt in 2019 to 634.9 kmt in 2020 mainly due to lower demand in all our major regions due to the global economic impact of COVID-19.

Gross profit of the Rubber Carbon Black segment decreased by \$75.7 million, or 34.5%, from \$219.3 million in 2019 to \$143.6 million in 2020, mainly as a result of lower volumes, lower feedstock prices and unfavorable product mix.

Adjusted EBITDA of the Rubber Carbon Black segment decreased by \$55.0 million, or 37.9%, from \$145.2 million in 2019 to \$90.1 million in 2020 reflecting the decline of gross profit partially offset by lower freight costs due to lower volumes.

2019 Compared to 2018

We refer to our annual report 2019 filed with the SEC on Form 10-K. The comparison of the fiscal years ended December 31, 2019 and 2018 can be found in our annual report on Form 10-K for the fiscal year ended December 31, 2019 located within *Part II, Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations"*.

Liquidity and Capital Resources

Historical Cash Flows

The tables below present our historical cash flows derived from our audited consolidated financial statements for 2020, 2019 and 2018.

	Year Ended December 31,		
	2020	2019	2018
	(In millions)		
Net cash provided by operating activities	\$ 125.3	\$ 231.5	\$ 122.0
Net cash used in investing activities	(144.9)	(155.8)	(88.1)
Net cash provided by (used in) financing activities	13.5	(68.6)	(43.8)
Cash, cash equivalents and restricted cash at the end of the period	\$ 67.9	\$ 68.2	\$ 61.6
Less restricted cash at the end of the period	3.0	4.5	4.6
Cash and cash equivalents at the end of the period	\$ 64.9	\$ 63.7	\$ 57.0

2020

Net cash provided by operating activities in 2020 amounted to \$125.3 million and consisted of a consolidated profit for the period of \$18.2 million and adjustments primarily for depreciation of \$96.5 million and increases of net working capital of approximately \$11.1 million.

Net cash used in investing activities in 2020 was \$144.9 million comprised of approximately \$84.0 million capital expenditure for maintenance and overhaul projects and expenditures associated as well as approximately \$60.9 million environmental improvements of our U.S. based facilities to address the EPA requirements.

Net cash provided by financing activities in 2020 were \$13.5 million comprised of a net \$35.0 million draw down on credit facilities while cash outflows of \$8.2 million were for debt repayment and \$12.0 million dividends paid.

2019

Net cash provided by operating activities in 2019 amounted to \$231.5 million and consisted of a consolidated profit for the period of \$86.9 million, adjustments primarily for depreciation of \$96.7 million and cash outflows from Net Working Capital of \$49.8 million.

Net cash used in investing activities in 2019 amounted to \$155.8 million comprised of \$100.2 million capital expenditure for maintenance and overhaul projects and associated expenditures as well as \$50.6 million environmental improvements of our U.S. based facilities to address the EPA requirements.

Net cash used in financing activities in 2019 amounted to \$68.6 million. Cash inflows during the fiscal year were \$97.0 million and are related to local bank loan facilities while \$101.3 million of cash outflows were used during the year for repayments of those and other current borrowings, \$8.0 million regular debt repayment and \$48.0 million dividend payments.

2018

Net cash provided by operating activities in 2018 amounted to \$122.0 million and consisted of a consolidated profit for the period of \$121.3 million, adjustments primarily for depreciation of \$98.2 million, cash outflows from changes in operating assets and liabilities of \$113.9 million including changes in Net Working Capital of \$65.6 million.

Net cash used in investing activities in 2018 amounted to \$88.1 million. It comprised proceeds from a land sale in Korea while \$36.6 million were used to acquire the acetylene carbon black manufacturer Société du Noird'Acétylène de l'Aubette, SAS ("SN2A"), SN2A, now known as Orion Engineered Carbons SAS. The remaining capital expenditures, including expenditures associated with consolidating our two production plants in South Korea, were \$103.8 million, of which \$12.6 million were used in connection with commencing the EPA related investments.

Net cash used in financing activities in 2018 amounted to \$43.8 million including \$26.4 million used for repayments of current borrowing, \$8.3 million of regular debt repayments, \$4.9 million used for share repurchases and \$47.7 million for dividend payments. Cash inflows of \$49.0 million is related to local bank loan facilities.

Sources of Liquidity

Our principal sources of liquidity are the net cash generated (i) from operating activities, primarily driven by our operating results and changes in working capital requirements, and (ii) from financing activities, primarily driven by borrowing amounts available under our committed multicurrency, senior secured RCF, and related ancillary facilities, various uncommitted local credit lines and, from time to time, term loan borrowings.

Our RCF allows the conversion of revolver capacity to ancillary line capacity. Because ancillary lines are bilateral agreements directly with individual bank group participants, borrowings under such lines reduce overall RCF availability but do not count towards the 35% RCF utilization test governing our financial covenant. As of December 31, 2020, the Company had converted 68% of its RCF into ancillary capacity, resulting in an ability to borrow the full amount of commitments under the RCF at any net leverage level.

We expect cash on hand and cash provided by operating activities and borrowings will be sufficient to pay our operating expenses, satisfy debt service obligations and fund capital expenditures for the foreseeable future.

As of December 31, 2020, the company had estimated liquidity of \$341.6 million, including cash and equivalents of \$64.9 million, \$236.5 million remaining under our revolving credit facility, including ancillary lines, and \$40.2 million under other available credit lines.

Net Working Capital (Non-GAAP Financial Measure)

We define Net Working Capital as the total of inventories and current trade receivables, less trade payables. Net Working Capital is a non-GAAP financial measure, and other companies may use a similarly titled financial measure that is calculated differently from the way we calculate Net Working Capital. The following tables set forth the principal components of our Net Working Capital as of the dates indicated.

	Year Ended December 31,		
	2020	2019	2018
	(In millions)		
Inventories	\$ 141.5	\$ 164.8	\$ 183.6
Trade receivables	234.8	212.6	262.8
Trade payables.....	(131.2)	(156.3)	(163.6)
Net working capital.....	\$ 245.0	\$ 221.1	\$ 282.9

Our Net Working Capital position can vary significantly from month to month, mainly due to fluctuations in oil prices and receipts of carbon black oil shipments. In general, increases in the cost of raw materials lead to an increase in our Net Working Capital requirements, as our inventories and trade receivables increase as a result of higher carbon black oil prices and related sales levels. These increases are partially offset by related increases in trade payables. Due to the quantity of carbon black oil that we typically keep in stock, such increases in Net Working Capital occur gradually over a period of two to three months. Conversely, decreases in the cost of raw materials lead to a decrease in our Net Working Capital requirements over the same period of time. Based on 2020 Net Working Capital requirements, we estimate that a \$10 per barrel movement in the Brent crude oil price correlates to a movement in our Net Working Capital of approximately \$27 million to \$30 million within about a two to three month period. In times of relatively stable oil prices, the effects on our Net Working Capital levels are less significant and Net Working Capital swings increase in an environment of high price volatility.

Our Net Working Capital increased to \$245.0 million as of December 31, 2020 compared to \$221.1 million as of December 31, 2019.

Capital Expenditures (Non-GAAP Financial Measure)

We define Capital Expenditures as cash paid for the acquisition of intangible assets and property, plant and equipment as shown in the consolidated financial statements.

For the years ended December 31, 2020, 2019 and 2018, our Capital Expenditures amounted to \$144.9 million, \$155.8 million and \$116.2 million, respectively. We plan to finance our Capital Expenditures, including EPA related expenditures, with cash generated by our operating activities. With the exception of required expenditures in association with our settlement with the EPA we currently do not have any material commitments to make Capital Expenditures, and do not plan to make Capital Expenditures outside the ordinary course of our business. See "Note 5. Commitments and Contingencies" for further details regarding the EPA settlement.

Capital Expenditures in 2020 were mainly comprised of maintenance and overhaul projects including approximately \$60 million in expenditures associated with our continuing environmental investments required to address the EPA requirements in the United States.

Capital Expenditures in 2019 were mainly comprised of maintenance and overhaul projects including expenditures associated with our efforts to commencing environmental investments required to address the EPA requirements in the United States.

Capital Expenditures in 2018 were were mainly comprised of maintenance and overhaul projects as well as expenditures associated with our efforts to consolidate our two productions plants in South Korea and commencing investments required to address the EPA requirements in the United States.

Research and Development, Patents and Licenses, etc.

Spending on innovation, including both applications technology and process development, amounted to \$20.2 million, \$19.9 million and \$20.3 million in 2020, 2019 and 2018, respectively, and was mostly directed towards the development of new specialty carbon black products, new applications for carbon black products and the improvement of process efficiencies, and to a lesser extent towards research on installation of equipment to reduce emission levels in connection with the recent EPA consent decree.

Trend Information

See "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations—Recent Developments and Certain Known Trends"

Off-Balance Sheet Arrangements

As of December 31, 2020, we did not have any off-balance sheet arrangements.

Contractual Obligations

The following table sets forth our contractual obligations as of December 31, 2020:

	Less than 1 year	1-3 years	4-5 years	More than 5 years	Total
	In millions				
Long-term debt obligations ⁽¹⁾	\$ 23.5	\$ 46.9	\$ 651.4	\$ —	\$ 721.8
Term loan ⁽³⁾	8.5	17.0	642.5	—	668.0
Interest expense on long-term debt ⁽⁴⁾	15.0	30.0	8.9	—	53.9
Purchase commitments ⁽⁵⁾	125.4	77.0	—	—	202.4
Operating leases.....	12.1	20.9	15.5	78.2	126.7
Total contractual obligations⁽⁶⁾.....	\$ 160.9	\$ 144.8	\$ 666.9	\$ 78.2	\$ 1,050.9

(1) Sets forth obligations to repay principal and interest under our long-term debt obligations.

(2) Represents the obligation under the Revolving Credit Facility ("RCF"). As of December 31, 2020, there were no cash amounts drawn under our Revolving Credit Facility of €250.0 million (USD equivalent: \$306.8 million).

(3) Represents the Term Loans and includes the outstanding principal amounts of \$277.7 million (U.S. Dollar term loan) and \$390.3 million (EUR term loan) which has been translated at an exchange rate at the reporting date of \$1.2271 per €1.00. The borrowing costs on the principal of the Euro-denominated Term Loan have been translated applying the same exchange rate.

(4) Represents interest expenses related to indebtedness from our Term Loans, assuming future interest based on a forward rate assumption.

(5) Represents purchase commitments under long-term supply agreements for the supply of raw materials, mainly oil and gas.

(6) This amount does not reflect the Company's obligations under its existing pension arrangements, which as of December 31, 2020 amounted to \$25.3 million. See "Note M. Employee Benefit Plans" for additional information regarding pension provisions and post-retirement benefits.

The level of performance bonds, guarantees and letters of credit required for carbon black oil purchasing could increase as a result of increasing oil prices or other factors (such as our ownership structure). As at December 31, 2020 Orion Engineered Carbons GmbH has five guarantees issued by Euler Hermes S.A. with a total volume of \$10.5 million (in prior year three guarantees by Euler Hermes S.A. of \$9.2 million; one guarantee insurance issued by Deutsche Bank AG with a volume of \$2.5 million (in prior year one guarantee issued by Deutsche Bank AG with a volume of \$2.2 million); two guarantees issued by Liberty Mutual INS. Europe SE with a volume of \$4.2 million (in prior year none). None of these guarantees reduce the possible utilization limit of the current RCF. Moreover, Orion has four guarantees issued by UniCredit with a total volume of \$0.3 million (in prior year: none) which reduces the availability under the RCF.

Borrowings under our Credit Agreement are at variable rates of interest based on USD-LIBOR or EURIBOR rates. In July 2017, the U.K. Financial Conduct Authority announced that it intends to stop collecting LIBOR rates from banks after 2021. The announcement indicates that LIBOR will not continue to exist on the current basis. We are unable to predict the effect of any changes to LIBOR, the establishment and success of any alternative reference rates, or any other reforms to LIBOR or any replacement of LIBOR that may be enacted in the United Kingdom or elsewhere. Such changes, reforms or replacements relating to LIBOR could have an adverse impact on the market for or value of any LIBOR-linked securities, loans, derivatives or other financial instruments or extensions of credit held by us.

Critical Accounting Policies

The 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. We evaluate our estimates and application of our policies on an ongoing basis. 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 under different assumptions or conditions. The policies that we believe are critical to the preparation of the consolidated financial statements are the following:

- Revenue Recognition
- Intangible Assets and Goodwill Impairment
- Inventories
- Income Taxes
- Financial Instruments
- Pension Benefit Plans
- Environmental provisions

These critical accounting policies and other significant accounting policies are discussed in *Item 8. "Financial Statements and Supplementary Data—Note A. Significant Accounting Policies"* to our audited consolidated financial statements included elsewhere in this report. See also *Note M. "Employee Benefit Plans"* to our audited consolidated financial statements for information about sensitivities of inputs used with respect to pension provisions. See also *Note I. "Business Combinations, Goodwill and Intangible Assets"* to our audited consolidated financial statements with respect to goodwill.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Our activities expose us to a variety of market risks. Our primary market risk exposures relate to foreign exchange, interest rate and commodity risks. To manage these risks and our exposure to the unpredictability of financial markets, we seek to minimize potential adverse effects on our financial performance and capital. Where appropriate, we use derivative financial instruments solely for the purpose of hedging the currency, interest and commodity risks arising from our operations and sources of finance. For this purpose, a systematic financial and risk management system has been established. We do not enter into derivative financial instruments for speculative purposes.

The following discussion and analysis only addresses our market risk and does not address other financial risks that we face in the normal course of business, including credit risk and liquidity risk.

Interest Rate Risk

Interest rate risk management aims to protect consolidated net income from negative effects from market interest rate fluctuations. Orion would be exposed to interest rate risk which might arise from incurring new liabilities at this time due to higher interest rates. Since the Term Loans are variable interest rate instruments, we are exposed to the market risk arising from changes in the yield curve. Appropriate hedging instruments are in place to mitigate the exposure arising from increasing interest rates.

The table below shows the sensitivity of the interest expense to changes in the interest rate, after the impact of hedge accounting. It shows the change resulting from a hypothetical fluctuation in the three-month LIBOR of 50 basis points (0.50%) as of December 31, 2020 assuming that all other variables remain unchanged. For example, changes in USD/EUR currency rate would have an impact on our interest exposure and vice versa. Changes in interest rates would also have a related impact on our foreign currency (USD) exposure. The sensitivity analysis assumes that the hypothetical interest rate was valid and that the Revolving Credit Facilities was utilized in the full amount over the course of the entire year. The effect of this hypothetical change in the interest rate of the variable rate loan on our consolidated income from operations before taxes and equity in earnings of affiliated companies ("income before taxes" in this section) for the year ended December 31, 2020 is as follows:

	December 31, 2020	
	Increase by 0.50%	Decrease by 0.50%
	In thousands	
Increase (decrease) in the interest expense.....	\$ (2,160)	\$ 780
Increase (decrease) in income before taxes.....	\$ 2,160	\$ (780)
Increase (decrease) in equity (cash flow hedge reserve).....	\$ 1,363	\$ (509)
Increase (decrease) in total comprehensive income before taxes.....	\$ 4,912	\$ (1,994)

Currency Risk

Our functional currency of our Company's main borrowing entity, OEC GmbH, is Euro. Currency risks primarily stem from future cash flows related to interest payments and the U.S. Dollar-denominated Term Loan. In addition to currency risks from operating activities, these interest and principal repayments mainly represent the risk in connection with exchange rate fluctuations.

The table below shows the sensitivity with regard to the effect of a change in the Euro/U.S. Dollar exchange rate using the outstanding amount and the interest for the U.S. Dollar-denominated Term Loan. A fluctuation of the Euro/U.S. Dollar exchange rate of 10% as of December 31, 2020 with other conditions remaining unchanged, would have the following effect on our income from operations before taxes and equity in earnings from affiliated companies or capital:

	December 31, 2020	
	Value of the U.S. Dollar in relation to the Euro ⁽¹⁾	
	Increase by 10%	Decrease by 10%
	In thousands	
FX gain / (FX loss) in finance result	\$ 7,335	\$ (8,965)
Increase (decrease) in income before taxes	\$ 7,335	\$ (8,965)
Increase (decrease) in total comprehensive income before taxes	\$ 7,335	\$ (8,965)

(1) U.S. Dollar/Euro exchange rate as of December 31, 2020: 1.2271.

Commodity Risk

Commodity risk results from changes in market prices for raw materials, mainly carbon black oil. Raw materials are primarily purchased to meet our production requirements. Factors of importance to our risk position are the availability and price of raw materials, energy, starting products and intermediates. In particular, our raw material prices depend on exchange rates and the price of crude oil. Pricing and procurement risks are reduced through worldwide procurement and optimized processes to ensure immediate sourcing of additional raw material requirements. Costs for raw materials and energy have fluctuated significantly in past years and may continue to fluctuate in the future. We endeavor to reduce purchasing risks on the procurement markets through worldwide purchasing activities and optimized processes for the purchase of additional raw materials. Raw materials are purchased exclusively to cover our own requirements.

A significant portion of our volume of approximately 75% is sold based on formula-driven price adjustment mechanisms for changes in costs of raw materials. Sales prices under non-indexed contracts are reviewed on a quarterly basis to reflect raw material and market fluctuation. We believe that our contracts enable us to generally maintain our Segment Adjusted EBITDA Margins since the Acquisition. Beginning in 2016 we entered into limited short-term commodity derivatives for a specific carbon black oil grade.

Item 8. Financial Statements and Supplementary Data

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of Orion Engineered Carbons S.A.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Orion Engineered Carbons S.A. (the Company) as of December 31, 2020 and 2019, the related consolidated statements of operations, comprehensive income, changes in stockholders' equity and cash flows for each of the three years in the period ended December 31, 2020, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020, in conformity with U.S. generally accepted accounting principles.

We also have 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 December 31, 2020, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 18, 2021 expressed an unqualified opinion thereon.

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

Income Taxes – Uncertain Tax Positions

Description of the Matter

The Company operates in various countries and fiscal jurisdictions which are each subject to their respective local and distinct tax regulations and recognizes uncertain tax positions as described in Note R of the consolidated financial statements. Auditing the Company's recognition and measurement of uncertain tax positions was complex due to significant estimates and degree of judgment made by management in the assessment of the related tax matters. The Company's estimates and judgment involve the interpretation of local tax legislations, the evaluation of the risk of incorrect application of tax legislation, the evaluation of the applicability of tax case law, and the assessment of outcomes from previous tax audits in connection with current tax positions. Given the complexity and the subjective nature of the assessment of uncertain tax positions, evaluating management's estimates relating to the determination of the uncertain tax positions requires extensive audit effort and a high degree of auditor judgment.

*How We Addressed
the Matter in Our
Audit*

We obtained an understanding, evaluated the design and tested the operating effectiveness of the Company's controls to recognize and measure uncertain tax positions. This included testing controls over the completeness of uncertain tax positions and management's review of the estimates and judgments described above. To test the recognition and measurement of the Company's uncertain tax positions, we performed audit procedures that included, among others, assessing management's methodology as well as the completeness and mathematical accuracy of underlying data used by the Company in its analysis. We involved our tax professionals to assist with our procedures. We evaluated the estimates and significant judgments made by management in determining the recognition and measurement of the uncertain tax positions recorded taking into consideration the Company's correspondence with the relevant tax authorities, income tax opinions, and third-party advice. We tested the consistency of the Company's estimates and judgments in determining its tax positions with relevant jurisdictional income tax regulation, applicable tax case law, previous tax audit outcomes and other relevant information. We also evaluated the Company's financial statement disclosures related to these tax matters.

/s/ Tobias Schlebusch
Wirtschaftsprüfer
(German Public Auditor)

/s/ Titus Zwirner
Wirtschaftsprüfer
(German Public Auditor)

Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft
We have served as the Company's auditor since 2011
Cologne, Germany
February 18, 2021

Consolidated Statements of Operations of Orion Engineered Carbons S.A.

	Years Ended December 31,		
	2020	2019	2018
	(In thousands, except per share amounts)		
Net sales	\$ 1,136,383	\$ 1,476,353	\$ 1,578,203
Cost of sales	844,034	1,086,644	1,148,232
Gross profit	292,348	389,708	429,971
Selling, general and administrative expenses	176,140	206,886	231,918
Research and development costs	20,201	19,874	20,320
Other expenses, net	14,066	12,169	6,061
Restructuring income	—	—	40,253
Restructuring expenses	7,559	3,628	15,620
Income from operations	74,382	147,151	196,305
Interest and other financial expense, net	38,671	27,572	28,642
Reclassification of actuarial losses from AOCI	9,916	—	—
Income from operations before income tax expense and equity in earnings of affiliated companies	25,795	119,579	167,663
Income tax expense	8,132	33,216	46,944
Equity in earnings of affiliated companies, net of tax	493	558	591
Net income	\$ 18,156	\$ 86,920	\$ 121,310
Weighted-average shares outstanding (in thousands of shares):			
Basic	60,430	59,986	59,567
Diluted	61,407	61,300	61,049
Earnings per share (USD per share):			
Basic	\$ 0.30	\$ 1.45	\$ 2.04
Diluted	\$ 0.30	\$ 1.42	\$ 1.99

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

Consolidated Statements of Comprehensive Income of Orion Engineered Carbons S.A.

	Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
Net income	\$ 18,156	\$ 86,920	\$ 121,310
Other comprehensive loss, net of tax			
Foreign currency translation adjustments	(14,262)	(1,632)	(10,096)
Unrealized net gains/(losses) on hedges of a net investment in a foreign operation	(133)	27	(269)
Unrealized net losses on cash flow hedges	(2,461)	(4,772)	(4,077)
Gains/(losses) on defined benefit plans	2,513	(8,358)	134
Other comprehensive loss	(14,343)	(14,734)	(14,308)
Comprehensive income	\$ 3,813	\$ 72,186	\$ 107,002

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

Consolidated Balance Sheets of Orion Engineered Carbons S.A.

	December 31,	
	2020	2019
	(In thousands, except share amounts)	
Current assets		
Cash and cash equivalents.....	\$ 64,869	\$ 63,726
Accounts receivable, net of expected credit losses of \$5,794 and \$6,632.....	234,796	212,565
Other current financial assets.....	3,630	11,347
Inventories, net.....	141,461	164,799
Income tax receivables.....	11,249	17,924
Prepaid expenses and other current assets.....	44,452	37,358
Total current assets.....	500,456	507,718
Property, plant and equipment, net.....	610,530	534,054
Operating lease right-of-use assets.....	85,639	27,532
Goodwill.....	84,480	77,341
Intangible assets, net.....	46,772	50,596
Investment in equity method affiliates.....	5,637	5,232
Deferred income tax assets.....	52,563	48,720
Other financial assets.....	761	2,501
Other assets.....	2,956	3,701
Total non-current assets.....	889,337	749,676
Total assets.....	\$ 1,389,793	\$ 1,257,394
Current liabilities		
Accounts payable.....	\$ 131,250	\$ 156,298
Current portion of long term debt and other financial liabilities.....	82,618	36,410
Current portion of employee benefit plan obligation.....	1,118	908
Accrued liabilities.....	49,176	44,931
Income taxes payable.....	23,906	14,154
Other current liabilities.....	36,676	32,509
Total current liabilities.....	324,745	285,211
Long-term debt, net.....	655,826	630,261
Employee benefit plan obligation.....	83,310	71,901
Deferred income tax liabilities.....	38,770	43,308
Other liabilities.....	106,131	40,701
Commitments and contingencies.....	Note S —	—
Total non-current liabilities.....	884,036	786,171
Stockholders' equity		
Common stock		
Authorized: 65,035,579 and 65,035,579 shares with no par value		
Issued – 60,992,259 and 60,729,289 shares with no par value		
Outstanding – 60,487,117 and 60,224,147 shares.....	85,323	85,032
Less 505,142 and 505,142 shares of common treasury stock, at cost.....	(8,515)	(8,515)
Additional paid-in capital.....	68,502	65,562
Retained earnings.....	84,407	78,296
Accumulated other comprehensive loss.....	(48,705)	(34,362)
Total stockholders' equity.....	181,013	186,013
Total liabilities and stockholders' equity.....	\$ 1,389,793	\$ 1,257,394

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

Consolidated Statements of Cash Flows of Orion Engineered Carbons S.A.

	Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
Cash flows from operating activities:			
Net income	\$ 18,156	\$ 86,920	\$ 121,310
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation of property, plant and equipment and amortization of intangible assets	96,526	96,713	98,156
Amortization of debt issuance costs	2,071	2,082	2,220
Share-based incentive compensation	4,434	9,438	13,919
Deferred tax (benefit)/provision	(12,146)	15,826	(3,634)
Foreign currency transactions	(4,900)	1,052	2,782
Reclassification of actuarial losses from AOCI	9,916	—	—
Other operating non-cash items	118	1,813	1,165
Changes in operating assets and liabilities, net of effects of businesses acquired:			
(Increase)/decrease in trade receivables	(16,501)	45,412	(39,680)
(Increase)/decrease in inventories	29,951	16,413	(31,406)
Increase/(decrease) in trade payables	(18,732)	(12,036)	5,444
Increase/(decrease) in provisions	2,308	(10,375)	(4,427)
Increase/(decrease) in tax liabilities	16,398	(7,254)	4,843
Increase/(decrease) in other assets and liabilities	(2,320)	(14,497)	(48,707)
Net cash provided by operating activities	\$ 125,278	\$ 231,507	\$ 121,985
Cash flows from investing activities:			
Cash paid for the acquisition of intangible assets and property, plant and equipment	\$ (144,939)	\$ (155,848)	\$ (116,157)
Acquisition of businesses, net of cash and cash equivalents acquired	—	—	\$ (36,571)
Cash received from the disposal of intangible assets and property, plant and equipment	—	—	\$ 64,672
Net cash used in investing activities	\$ (144,939)	\$ (155,848)	\$ (88,056)
Cash flows from financing activities:			
Payments for debt issue costs	—	(1,721)	(741)
Repayments of long-term debt	(8,190)	(8,036)	(8,288)
Cash inflows related to current financial liabilities	206,076	96,956	48,963
Cash outflows related to current financial liabilities	(171,095)	(101,303)	(26,370)
Dividends paid to shareholders	(12,045)	(48,033)	(47,665)
Repurchase of common stock	—	—	(4,926)
Taxes paid for shares issued under net settlement feature	(1,202)	(6,475)	(4,741)
Net cash provided by/(used in) financing activities	\$ 13,543	\$ (68,612)	\$ (43,768)
Increase (decrease) in cash, cash equivalents and restricted cash	\$ (6,118)	\$ 7,047	\$ (9,839)
Cash, cash equivalents and restricted cash at the beginning of the period	68,231	61,604	75,213
Effect of exchange rate changes on cash	5,753	(420)	(3,770)
Cash, cash equivalents and restricted cash at the end of the period	\$ 67,865	\$ 68,231	\$ 61,604
Less restricted cash at the end of the period	2,996	4,505	4,588
Cash and cash equivalents at the end of the period	\$ 64,869	\$ 63,726	\$ 57,016
Cash paid for interest, net	\$ (20,769)	\$ (20,399)	\$ (24,367)
Cash paid for income taxes	\$ (7,930)	\$ (24,106)	\$ (60,228)
Supplemental disclosure of non-cash activity:			
Liabilities under build-to-suit lease	\$ —	\$ —	\$ 28,657
Liabilities for leasing - current	\$ 14,005	\$ 6,254	\$ —
Liabilities for leasing - non-current	\$ 52,593	\$ 26,280	\$ —

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

Consolidated Statements of Changes in Stockholders' Equity of Orion Engineered Carbons S.A.

	Common stock		Treasury shares	Additional paid-in capital	Retained earnings	Accumulated other comprehensive loss	Total equity
	Number of common shares	Amount					
(In thousands, except per share amounts)							
As of January 1, 2018	59,320,214	\$ 83,770	\$ (3,773)	\$ 102,529	\$ (81,901)	\$ (5,320)	\$ 95,305
Net income	—	—	—	—	121,310	—	121,310
Other comprehensive loss, net of tax	—	—	—	—	—	(14,308)	(14,308)
Distributions from additional paid-in capital							
\$0.80 per share	—	—	—	(47,665)	—	—	(47,665)
Share buyback	(206,501)	—	(4,926)	—	—	—	(4,926)
Share based compensation	—	—	—	8,680	—	—	8,680
Issuance of stock under equity compensation plans	404,785	484	16	—	—	—	500
As of December 31, 2018	59,518,498	84,254	(8,683)	63,544	39,409	(19,628)	158,896
Net income	—	—	—	—	86,920	—	86,920
Other comprehensive loss, net of tax	—	—	—	—	—	(14,734)	(14,734)
Dividends paid - \$0.80 per share	—	—	—	—	(48,033)	—	(48,033)
Share based compensation	—	—	—	2,018	—	—	2,018
Issuance of stock under equity compensation plans	705,649	778	168	—	—	—	946
As of December 31, 2019	60,224,147	85,032	(8,515)	65,562	78,296	(34,362)	186,013
Net income	—	—	—	—	18,156	—	18,156
Other comprehensive loss, net of tax	—	—	—	—	—	(14,343)	(14,343)
Dividends paid - \$0.20 per share	—	—	—	—	(12,045)	—	(12,045)
Share based compensation	—	—	—	2,941	—	—	2,941
Issuance of stock under equity compensation plans	262,970	291	—	—	—	—	291
As of December 31, 2020	60,487,117	\$ 85,323	\$ (8,515)	\$ 68,502	\$ 84,407	\$ (48,705)	\$ 181,013

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

Note A. Significant Accounting Policies

Orion's audited consolidated financial statements are comprised of Orion Engineered Carbons S.A. and its subsidiaries ("Orion", "Company", "we", and "our"). The Company's fiscal year comprises the period from January 1, 2020 to December 31, 2020.

Principles of consolidation

The consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States ("U.S. GAAP") and are prepared in US Dollars, the presentation currency of the Company. The consolidated financial statements include the accounts of Orion and its wholly-owned subsidiaries and majority-owned and controlled U.S. and non-U.S. subsidiaries. Additionally, Orion 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.

Use of estimates and assumptions

We make estimates and use judgments and assumptions in the preparation of our consolidated financial statements that affect the timing and amount of assets, liabilities, equity, revenues and expenses recorded and disclosed. The more significant estimates and judgments relate to revenue recognition, asset impairment, income taxes, inventories, goodwill, pension benefits, and environmental liabilities. Actual outcomes could differ from our estimates, resulting in changes in revenues or costs that could have a material impact on the Company's results of operations, financial position, or cash flows.

Foreign currency translation

The functional currency of the majority of the Company's foreign subsidiaries is the local currency in which the subsidiary operates. The results of operations for foreign subsidiaries are translated from these functional currencies into U.S. dollars using the average monthly currency exchange rates. Assets and liabilities are translated into U.S. dollars using exchange rates at the balance sheet dates, and we record the resulting foreign currency translation adjustments as a separate component of Accumulated other comprehensive loss in equity. Foreign currency transaction gains and losses are recorded, as incurred, as Interest and other financial expense, net in the consolidated statements of operations.

Revenue recognition

The Company recognizes revenue when a performance obligation has been satisfied by transferring a good or a service to a customer. Revenue is only recognized when control is transferred to the customer. The amount of revenue, the transaction price, is contractually specified between the parties and is measured at the amount expected to be received less value-added tax, if applicable, and any trade discounts and volume rebates granted. We also give our customers a limited right to return product that has been damaged, does not satisfy their specifications, or other specific reasons. Payment terms on product sales to our customers typically range from 30 to 90 days. Although certain exceptions exist where standard payment terms are exceeded, these instances are infrequent and do not exceed one year and therefore we do not consider there to be a significant financing component associated with the contract.

Shipping and handling costs incurred in connection with the satisfaction of performance obligations are accounted for as fulfillment activities and recorded as sales revenue. Shipping and handling costs are expensed in the period incurred and included in Cost of sales within the Consolidated Statements of Operations.

The Company records a provision for warranty costs, based on historical trends of warranty costs incurred as a percentage of sales, which management has determined to be a reasonable estimate of the probable losses to be incurred for warranty claims in a period.

Cost of sales

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

Selling and administrative expenses

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

Research and development costs

Research and development costs include salaries, equipment and material expenditures, and contractor fees and are expensed as incurred.

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 that may become payable in future years as a result of audits by tax authorities. 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. Current income tax receivables and liabilities are measured at the amount expected to be recovered from or paid to the taxation authorities. They are calculated based on the tax rates and tax laws that are enacted on the reporting date.

Deferred tax assets and liabilities 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. They are measured using statutory tax rates that are expected to apply to taxable income in the jurisdictions and years when the asset is realized or the liability is settled, based on tax rates that are enacted at the reporting date. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date.

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.

Orion records benefits for uncertain tax positions based on the assessment of whether the position is more likely than not to be sustained by taxing authorities. If the 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. The 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 included such charges in its income tax provision in the Consolidated Statements of Operations.

Cash, cash equivalents and restricted cash

Cash and cash equivalents comprise bank balances, checks and cash on hand. They include all highly liquid investments with a maturity of three months or less at date of acquisition.

Restricted cash comprises cash which is not available for immediate use and may not be utilized for any purpose until a certain event or events take place. A designation for short-term or long-term restricted cash is made based on the expected time of release or distribution.

Cash, cash equivalents and restricted cash are as follows:

	December 31,	
	2020	2019
	(In thousands)	
Cash and cash equivalents	\$ 64,869	\$ 63,726
Restricted cash included in current and non-current assets	2,996	4,505
Total cash, cash equivalents and restricted cash shown in the statement of cash flows	\$ 67,865	\$ 68,231

Restrictions result from mandatory and voluntary pledges to secure certain guarantee amounts.

Accounts and notes receivables

Accounts receivable are amounts due from customers for merchandise sold or services performed in the ordinary course of business and are carried at transaction price net of allowance for credit losses. Generally, interest is not charged on past due amounts. We monitor and evaluate collectability of receivables on an ongoing basis and consider whether an allowance for credit loss is necessary. Allowance for credit losses is measured using historical loss rates for the respective risk categories and incorporating forward-looking estimates. The corresponding expense for the credit loss allowance is reflected in Selling, general and administrative expenses. Accounts receivable are charged off when the accounts are deemed to no longer be collectible. Accounts receivables in China may at certain times be settled with the receipt of bank issued non-interest-bearing notes.

Financial instruments

Orion's financial instruments consist primarily of cash and cash equivalents, trade receivables, loans, miscellaneous financial assets, term loan, local bank loans, trade payables and derivative instruments. The carrying values of Orion's financial instruments approximate fair value with the exception of variable 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.

The Company uses derivative financial instruments primarily for purposes of hedging the exposures to fluctuations in foreign currency exchange and interest rates, which exist as part of its ongoing business operations. Orion 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 the Company 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 *Interest and other financial expense, net* in the Statement of Operations or AOCI, depending on whether 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 Orion'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 the gains or losses from changes in the fair value of derivative instruments that are not designated as hedges in *Interest and other financial expense, net* in the Statement of Operations. 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. The cash flows related to the principal amount of outstanding debt instruments are presented in the Cash Flows from Financing Activities section of the Consolidated Statements of Cash Flows.

Inventories

We value inventory at the lower of cost or net realizable value, with cost determined utilizing the average cost method. We periodically evaluate the net realizable value of inventories based primarily upon their age, but also upon assumptions of future usage in production, customer demand and market conditions. Inventories have been reduced to the lower of cost or net realizable value by allowances for slow moving or obsolete goods. If actual circumstances are less favorable than those projected by management in its evaluation of the net realizable value of inventories, additional write-downs may be required.

Investments

The Company has an investment in DGW (Kommanditgesellschaft Deutsche Gasrußwerke GmbH & Co) and DGW GmbH (Kommanditgesellschaft Deutsche Gasrußwerke GmbH & Co) which is accounted for using the equity method as the Company has the ability to exert significant influence over the affiliates' operating and financial policies.

Intangible assets and goodwill

We record 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. We use 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. We estimate 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 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.

Intangible assets with finite useful lives, which are comprised of trademarks, customer relationships and developed technologies, are amortized on a straight line basis over their estimated useful lives of 3-15 years. The useful lives of intangibles related to customer relationships acquired in business combinations are estimated on the basis of contractual arrangements and the probability of a continuing relationship.

If events or changes in circumstances indicate that the carrying amount of an intangible asset may not be recoverable, it is tested for impairment, see below in this note under "Impairment test". The useful lives of intangible assets with finite useful lives are re-assessed annually.

Asset Impairment

Intangible Assets and Goodwill

Intangible assets with finite lives are reviewed for impairment when indication of potential impairment exists, such as a significant reduction in cash flows associated with the assets.

Goodwill is tested for impairment at the reporting unit level annually or more frequently if triggering events occur or as deemed necessary. 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. Specialty Carbon Black and Rubber Carbon Black which are considered separate reporting units, carried our goodwill balances as of December 31, 2020.

Our annual measurement date for testing impairment is as of September 30, 2020. 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 fair value is also benchmarked against the value calculated from a market approach using the guideline public company method. 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. Based on our most recent annual goodwill impairment test performed as of September 30, 2020, the fair values of the Specialty Carbon Black and Rubber Carbon Black reporting units were in excess of their carrying values.

Long-lived Assets

The Company assesses long-lived assets such as property, plant and equipment for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable.

Long-lived assets to be held and used are assessed for possible impairment by comparing their carrying values with their associated undiscounted, future net cash flows. Events that can trigger assessments for possible impairments include significant decreases in the market value of an asset, significant change in the extent or manner of use of or a physical change in an asset, and a more-likely-than-not expectation that a long-lived asset or asset group will be sold or otherwise disposed of significantly sooner than the end of its previously estimated useful life.

To test for impairment of assets, Orion generally uses a probability-weighted estimate of the future undiscounted net cash flows of the related 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. Any write-downs are treated as permanent reductions in the carrying amount of the assets. 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. An impairment loss may not be reversed if the fair value of the impaired asset or asset group increases subsequently.

Property, plant and equipment

Property, plant and equipment are recorded at cost less accumulated depreciation. Depreciation of property, plant and equipment is calculated using the straight-line method over the expected useful lives of the related assets. The depreciable lives for Buildings, Plant and machinery as well as Furniture, fixtures and office equipment are between 5 and 50 years, 3 and 25 years, and 3 and 25 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 *other expenses, net* in the Consolidated Statements of Operations.

Expenditures for repairs and maintenance are charged to expenses as incurred. Expenditures for major renewals and improvements, which significantly extend the useful lives of the existing property, plant and equipment, are capitalized and depreciated.

Asset retirement obligations

Orion 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. Orion recognizes ARO liabilities and costs when the timing and/or settlement can be reasonably estimated. The ARO reserves were \$1.7 million and \$2.9 million as of December 31, 2020 and 2019, respectively, and are included in *Accrued liabilities (current)* and *Other Liabilities (non-current)* on the Consolidated Balance Sheets.

Leases

We determine if an arrangement is a lease at inception of a contract. Right-of-use ("ROU") assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments arising from the lease. ROU assets and lease liabilities are recognized at the lease commencement date based on the present value of lease payments over the lease term. As most of our leases do not provide an implicit interest rate, we use our incremental borrowing rate based on the information available at commencement date in determining the present value of lease payments. The lease terms used to calculate the ROU asset and related lease liability include options to extend or terminate the lease when it is reasonably certain that we will exercise that option. Lease expense for operating leases is recognized on a straight-line basis over the lease term as an operating expense. We have lease agreements which require payments for lease and non-lease components and have elected to account for these as a single lease component related to our other operating facilities.

Leases with an initial term of 12 months or less are not recorded on the Balance Sheet and lease expense is recognized in the Consolidated Statements of Operations on a straight-line basis over the lease term.

Please see *Note C. Leases* for additional information.

Pension benefit plans

Our defined benefit pension obligations are measured in accordance with the projected unit credit method. The calculations and the resulting amounts recorded in our consolidated financial statements are affected by assumptions including the discount rate, expected long-term rate of return on plan assets, the annual rate of change in compensation for plan-eligible employees, mortality tables, and other factors. We evaluate the assumptions used on an annual basis. The Company recognizes the total actuarial gains or losses recorded in accumulated other comprehensive income exceeding 10% of the defined benefit obligation in the following year through profit and loss separately from its income from operations.

Defined contribution obligations arise from commitments and state pension schemes (statutory pension insurance). We account for our contributions to a defined contribution plan on an accrual basis. An asset or liability may result from advance payments or payments due, respectively, to a defined contribution fund.

Stock-based compensation

Orion recognizes stock-based compensation cost measured at the grant date based on the fair value of the award, and recognizes these costs as expense over the service period, which generally represents the vesting period, includes an estimate of the awards that will be forfeited and also includes an estimate of awards that expect to vest based on the anticipated achievement of performance conditions. Fair value of awards is determined by using a Monte-Carlo simulation.

Awards can be classified as either equity or liability-settled dependent on the Company's obligation to the counterparty and the intended settlement method. The overarching principle focuses on whether an equity relationship is created through the award. Orion classifies its awards as equity settled. Once earned and vested, certain awards can be settled in one share of Company common stock per vested award (or, at the Company's election, cash equal to the fair market value thereof). Certain awards are settled for cash at fair market value to cover wage taxes or as a substitute for share transfer restrictions.

When the terms of an equity-settled award are modified, the minimum expense recognized is the expense had the terms not been modified, if those original terms of the award are met. An additional expense is recognized for any modification that increases the total fair value of the share-based compensation transaction, or is otherwise beneficial to the employee as measured at the date of modification. Any modifications are accounted for as a new award, which might result in a lower amount of compensation cost than the grant date fair value of the original award or a greater amount of compensation costs than the sum of the grant date fair value of the original award plus the incremental fair value.

Environmental provisions

We accrue for environmental remediation costs and other obligations when it is probable that a liability has been incurred and we can reasonably estimate the amount. The amount accrued reflects our assumptions about remediation requirements at the contaminated site, the nature of the remedy, the outcome of discussions with regulatory agencies and other potentially responsible parties at multi-party sites, and the number and financial viability of other potentially responsible parties. We do 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. We determine the timing and amount of any liability based upon assumptions regarding future events. Inherent uncertainties exist in such evaluations primarily due to unknown conditions and other circumstances, changing governmental regulations and legal standards regarding liability, and evolving technologies. We adjust these liabilities periodically as remediation efforts progress or as additional technical or legal information becomes available.

Restructuring expenses

Restructuring expenses could include both termination benefits and asset write downs. We estimate accruals for termination benefits based on various factors including length of service, contract provisions, local legal requirements, projected final service dates, and salary levels. We also analyze the carrying value of long-lived assets and record estimated accelerated depreciation through the anticipated end of the useful life of the assets affected by the restructuring or record an asset impairment. In all likelihood, this accelerated depreciation will result in reducing the net book value of those assets to zero at the date operations cease. While we believe that changes to our estimates are unlikely, the accuracy of our estimates depends on the successful completion of numerous actions. Changes in our estimates could increase our restructuring costs to such an extent that it could have a material impact on the Company's results of operations, financial position, or cash flows. Other events, such as negotiations with unions and works councils, may also delay the resulting cost savings.

Concentrations of credit risk

Credit risk is the risk of an unexpected loss if a customer or third party to a financial instrument fails to meet its contractual obligations. Financial instruments that potentially subject the Company to a concentration of credit risk consist primarily of cash and cash equivalents, accounts receivable, derivative instruments and undrawn amounts under the Revolving Credit Facility ("RCF").

Our cash in demand deposit accounts may exceed federally insured limits and could be negatively impacted if the underlying financial institutions fail or are subject to other adverse conditions in the financial markets. Credit risk is mitigated as we place the cash mainly with our defined core banks which are major financial institutions with investment grade long-term credit ratings.

Our trade accounts receivable are subject to concentrations of credit risk with customers primarily in our Rubber Carbon Black segment. During 2020, sales to our ten largest customers within our Rubber Carbon Black segment accounted for approximately 66% of total consolidated segment sales. Sales to our ten largest customers within our Specialty Carbon Black segment accounted for approximately 25% of total consolidated segment sales. Sales to our top ten customers on a total consolidated basis accounted for approximately 39% of our consolidated net sales. A default in payment, a material reduction in purchases from these or any other large customers, or the loss of a large customer or customer groups could have a material adverse impact on our financial condition, results of operations and liquidity. In addition, trade receivables are subject to concentrations of credit risk with customers of specific industries which can be affected by a downturn in the economy. We estimate the receivables for which we do not expect full collection based on historical collection rates and ongoing evaluations of the creditworthiness of our customers including considerations of future macroeconomic expectations. An allowance is recorded in our consolidated financial statements for these estimated amounts. The concentration of customer credit risk is mitigated by the size and diversity of the customer base as well as its geographic dispersion.

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 the Company, thus creating a payment risk for the Company. We minimize counterparty credit or repayment risk by entering into these transactions with major financial institutions of investment grade credit rating. See Note K-*"Financial Instruments and Fair Value Measurements"* for additional information on our derivative contracts.

If an RCF lender fails to fulfill its performance obligations, with respect to making funds available, under the credit agreement, Orion's credit risk comprises a potential cash shortage/refinancing risk amounting to the respective bank's commitment amount. With regard to the allocation of the total RCF amount all the lenders in the syndicate carry investment grade long-term credit ratings. See Note H-*"Debt and Other Obligations"* for additional information on our revolving credit facility

We believe there is no significant concentration of risk as of December 31, 2020.

Note B. Recent Accounting Pronouncements

Recently Adopted Accounting Standards

In December 2019, the FASB issued ASU No. 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes (ASU 2019-12)*, which is intended to simplify various aspects related to accounting for income taxes. ASU 2019-12 removes certain exceptions to the general principles in Topic 740 and also clarifies and amends existing guidance to improve consistent application. This guidance is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2020, with early adoption permitted. The Company adopted this guidance as of January 1, 2021. The adoption of this guidance will not have a material impact on the Company's financial statements.

In November 2019, the FASB issued ASU No. 2019-11, *Codification Improvements to Topic 326, Financial Instruments - Credit Losses (ASU 2019-11)*. The amendments in this update represents changes to clarify, correct errors in, or improve the codification, and make the codification easier to understand and easier to apply by eliminating inconsistencies and providing clarifications. For entities that have adopted ASU 2016-13, the amendments in ASU 2019-11 are effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. Early adoption is permitted in any interim period after the issuance of ASU 2019-11 as long as the entity has adopted the amendments in ASU No. 2016-13. The Company adopted ASU 2019-11 as of January 1, 2020. The adoption of this guidance did not have a material impact on the Company's financial statements.

In August 2018, the FASB issued ASU No 2018-14, *Compensation - Retirement Benefits - Defined Benefit Plans - General (Subtopic 715-20): Disclosure Framework - Changes to the Disclosure Requirements for Defined Benefit Plans*. The guidance changes the disclosure requirements for employers that sponsor defined benefit pension and/or other postretirement benefit plans. It eliminates requirements for certain disclosures that are no longer considered cost beneficial and requires new ones that the FASB considers pertinent. The guidance is effective for financial statements issued for fiscal years ending after December 15, 2020 for public business entities and fiscal years ending after December 15, 2021 for all other entities. Early adoption is permitted. Entities will apply the amendments retrospectively. The Company adopted ASU No 2018-14 as of January 1, 2020. The adoption of this guidance did not have a significant impact on the Company's financial statements.

In June 2016, the FASB issued ASU No. 2016-13, *Measurement of Financial Losses on Credit Instruments*. 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 January 1, 2020. The adoption of this standard did not materially impact the Company's consolidated financial statements.

Recently Issued Accounting Standards Not Yet Adopted

In March 2020, the FASB issued ASU No. 2020-04, Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting (ASU 2020-04). The amendments in this update provide optional guidance for a limited period of time to ease the potential burden in accounting for (or recognizing the effects of) reference rate reform on financial reporting. The amendments in this update are effective for all entities as of March 12, 2020 through December 31, 2022. The Company is currently evaluating the potential impact the adoption of this standard will have on its financial statements.

In January 2020, the FASB issued ASU No. 2020-01, *Investments - Equity Securities (Topic 321), Investments - Equity Method and Joint Ventures (Topic 323), and Derivatives and Hedging (Topic 815)*. The amendments in this update clarify the interaction of the accounting for equity securities under Topic 321 and investments accounted for under the equity method of accounting in Topic 323 and the accounting for certain forward contracts and purchased options accounted for under Topic 815. The amendments in this update are effective for fiscal years beginning after December 15, 2020, and interim periods within those fiscal years. The Company is currently evaluating the potential impact the adoption of this standard will have on its financial statements.

Note C. Leases

Orion has entered into lease contracts as a lessee and is not acting as a lessor. The vast majority of Orion's lease contracts are for operating lease assets such as rail cars, company cars, offices and office equipment.

The recorded right-of-use assets as of December 31, 2020 amounted to \$85.6 million, and the corresponding lease liabilities amounted to \$86.6 million, of which \$12.1 million were recorded within other current liabilities and \$74.5 million as other liabilities in our Consolidated Balance Sheets.

The weighted remaining average minimum lease period is 20.6 years.

The undiscounted minimum lease payments are due in and reconcile to the discounted lease liabilities as follows:

	December 31, 2020
	(In thousands)
Next 12 months.....	\$ 12,077
1 to 2 years.....	10,890
2 to 3 years.....	9,976
3 to 4 years.....	8,330
4 to 5 years.....	7,212
More than 5 years.....	78,216
Total undiscounted minimum lease payments	\$ 126,701
Discount.....	(40,099)
Lease liability (current and non-current)	\$ 86,603

The weighted average discount rate applied to the lease liabilities is 4.01%.

In September 2020, Orion commenced a district heating project with the utilities provider of its Cologne, Germany neighbor city of Hürth. The power plant is operated by Orion on a finance lease over a period of 25 years. During the third quarter of 2020, Orion recorded a right-of-use asset and a respective lease liability in an amount of \$54.8 million.

Finance lease costs for the years ended December 31, 2020 and 2019 were \$2.3 million and \$0.6 million, respectively, and aggregated depreciation expenses of the right-of-use assets were \$1.4 million, and \$0.5 million, respectively. Interest on lease liabilities of \$0.9 million and \$0.1 million were recorded for the years ended December 31, 2020 and 2019, respectively. Cash paid for amounts included in the measurement of lease liabilities from finance leases was \$1.9 million and \$0.6 million for the years ended December 31, 2020 and 2019, respectively.

Operating lease costs for the years ended December 31, 2020 and 2019 amounted in total to \$11.6 million and \$12.5 million, respectively, and were recorded as operating expenses under cost of sales, selling, general and administrative expenses and under research and development cost. Cash paid for amounts included in the measurement of lease liabilities from operating leases was \$8.1 million and \$8.6 million for the years ended December 31, 2020 and 2019, respectively.

Orion entered into a forward-starting lease agreement in May 2020 for a new warehouse at our facility in Cologne, Germany. The lessor, a logistics and distribution service provider, is currently constructing the warehouse at our location, with the lease scheduled to commence in 2021 after construction is completed. The lease agreement will have a total of approximately \$6 million in undiscounted future lease payments over the 10-year term of the lease.

Note D. Inventories

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

	December 31,	
	2020	2019
	(In thousands)	
Raw materials, consumables and supplies, net	\$ 57,011	\$ 69,168
Work in process	322	148
Finished goods, net	84,128	95,483
Total	\$ 141,461	\$ 164,799

Orion periodically reviews inventories for both obsolescence and loss in value. In this review, Orion makes assumptions about the future demand for and the future market value of the inventory and, based on these assumptions, estimates the amount of obsolete, unmarketable or slow moving inventory. The inventory reserve for obsolete, unmarketable and slow moving assets as of December 31, 2020 and 2019 amounted to \$12.7 million and \$6.7 million, respectively.

In the periods ended December 31, 2020, 2019 and 2018, \$9.0 million, \$6.0 million and \$1.9 million, respectively, were recognized as an expense for damaged and lost inventories.

Note E. Property, Plant and Equipment, and right-of-use assets

Property, plant and equipment consists of the following:

	December 31,	
	2020	2019
	(In thousands)	
Land	\$ 35,000	\$ 33,654
Land rights and buildings	101,931	94,157
Plant and machinery	833,235	725,203
Other equipment, furniture and fixtures	37,564	30,965
Prepayments and construction in progress	176,323	138,374
Total property, plant and equipment	1,184,054	1,022,354
Less: accumulated depreciation	573,524	488,300
Net property, plant and equipment	\$ 610,530	\$ 534,054

Depreciation expense was \$81.0 million, \$75.3 million and \$78.2 million for fiscal years ending December 31, 2020, 2019 and 2018, respectively.

Property, plant and equipment amounts include remeasurements due to the finalization of purchase price accounting in the third quarter of 2019 related to the acquisition of SN2A (see *Note I. Business Combinations, Goodwill and Intangible Assets*).

The value of right-of-use assets as of December 31, 2020 was \$101.5 million. With accumulated depreciation of \$15.8 million, the net carrying amount is \$85.6 million as of December 31, 2020. Depreciation expense for right-of-use assets was \$7.3 million and \$8.5 million for fiscal years 2020 and 2019, respectively.

Note F. Prepaid and other assets

	December 31,					
	2020			2019		
	Total	Thereof current	Thereof non-current	Total	Thereof current	Thereof non-current
	(In thousands)					
Miscellaneous other receivables	\$ 42,116	\$ 41,777	\$ 339	\$ 36,531	\$ 36,189	\$ 342
Prepaid expenses	5,292	2,674	2,617	4,529	1,170	3,359
Total	\$ 47,408	\$ 44,452	\$ 2,956	\$ 41,059	\$ 37,358	\$ 3,701

Miscellaneous other receivables were primarily VAT (\$23.0 million and \$21.5 million as at December 31, 2020 and 2019, respectively), advance payments (\$2.9 million and \$1.2 million as of December 31, 2020, and 2019, respectively), down payments (\$2.3 million and \$3.1 million as of December 31, 2020 and 2019, respectively), refundable environmental taxes prepaid (\$0.9 million and \$3.2 million as of December 31, 2020 and 2019, respectively) and guarantee deposits (\$1.4 million and \$1.4 million as of December 31, 2020 and 2019, respectively).

Prepaid expenses primarily include other unamortized transaction costs of \$3.0 million and \$3.4 million as of December 31, 2020 and 2019, respectively, (of which \$2.3 million and \$2.8 million, respectively, are non-current) incurred in connection with the revolving credit facility that has not been drawn by the respective reporting dates.

Note G. Accounts Receivable

The company accounts receivable are as follows:

	December 31,	
	2020	2019
	(In thousands)	
Accounts receivable	\$ 240,590	\$ 219,197
Expected credit losses	(5,794)	(6,632)
Accounts receivable, net of expected credit losses	\$ 234,796	\$ 212,565

The company allowance for credit losses are as follows:

	2020	2019
		(In thousands)
Allowance for credit losses as of January 1,	\$ (6,632)	\$ (5,081)
Credit loss expense	(3,965)	(3,703)
Credit loss income and utilization	4,924	1,209
Foreign currency translation effects	(120)	943
Allowance for credit losses as of December 31,	\$ (5,794)	\$ (6,632)

Note H. Debt and Other Obligations

The company arrangements are as follows:

	December 31,	
	2020	2019
	(In thousands)	
Current		
Term loan.....	\$ 8,479	\$ 8,057
Deferred debt issuance costs-term loan.....	(1,500)	(1,409)
Other short-term debt and obligations.....	75,640	29,762
Current portion of long-term debt and other financial liabilities	82,618	36,410
Non-current		
Term loan.....	659,502	634,994
Deferred debt issuance costs-term loan.....	(3,676)	(4,733)
Other long-term debt and obligations.....	—	—
Long-term debt, net	655,826	630,261
Total	\$ 738,444	\$ 666,671

(a) Term Loan

In 2014, Orion entered into an \$895.0 million term loan credit facility (“Credit Agreement”), which was allocated to a term loan facility denominated in U.S. dollars of \$358.0 million and a term loan facility denominated in Euros of €399.0 million with both having an original maturity date of July 25, 2021 (the “Term Loans”). Initial interest was calculated based on three-month EURIBOR (for the euro denominated loan), or three-month USD-LIBOR (for the U.S. dollar denominated loan) plus a 3.75% - 4.00% margin depending on the Company’s net leverage ratio. For both EURIBOR and USD-LIBOR, a floor of 1.0% applied. At least 1.0% of the principal amount is required to be repaid per annum.

Orion repriced the Term Loans during the years 2016 to 2018, achieving a significant reduction of both interest margins to currently 2.00% for the U.S. dollar term loan and 2.25% for the Euro term loan. In addition, the interest margin is no longer linked to Orion’s net leverage ratio and the EURIBOR and USD-LIBOR floors were eliminated. The duration of both Term Loans was extended to July 25, 2024. Other provisions of the Credit Agreement relating to the Term Loans remained unchanged.

Transaction costs incurred directly in connection with the Term Loans reduce their carrying amount and are amortized as finance costs over the term of the loans. Transaction costs incurred in connection with the subsequent modifications of the Term Loan were directly expensed as incurred as the modified terms were not substantially different. In connection with the repricing described above further transaction costs of \$0.7 million in 2018 were incurred and directly expensed. For the years ended December 31, 2020, 2019 and 2018 an amount of \$1.4 million, \$1.4 million and \$1.4 million, respectively, related to capitalized transaction costs was amortized and recognized as finance costs in this regard.

In May 2018, Orion entered into a \$235.0 million cross currency swap to synthetically convert its U.S. dollar liabilities into euro liabilities. This swap transaction impacts both principal and interest payments associated with debt service and results in a further annual interest payments savings of approximately \$4.7 million. The swap became effective on May 15, 2018 and will expire on July 25, 2024, in line with maturity of the term loan. As part of our financial risk strategy, on December 30, 2020, we exited \$38.0 million and \$30 million in cross currency swaps, with maturity dates of 2024 and 2021, respectively, at a loss of approximately \$6.3 million.

A portion of the U.S. dollar-denominated term loan was designated as a hedge of the net investment in a foreign operation to reduce the Company’s foreign currency exposure. Since January 1, 2015 the Company had designated \$180.0 million of the total U.S. dollar-denominated term loan held by a Germany based subsidiary as the hedging instrument to hedge the change in net assets of a U.S. subsidiary, which is held by a Germany based subsidiary, to manage foreign currency risk. Due to the new hedging approach and the new cross currency swap as described above, hedge accounting for the net investment hedge was discontinued on May 15, 2018. An unrealized loss of \$2.2 million remains within other comprehensive income until it is recycled through profit and loss upon divestment of the hedged item.

The carrying value of the Term Loans as of December 31, 2020 includes the nominal amount of the Term Loans plus accrued unpaid interest less deferred debt issuance costs - term loan of \$5.2 million (December 31, 2019: \$6.1 million).

(b) Revolving credit facility

To fund operating activities and generally safeguard the Company's liquidity, the Company has entered into an RCF.

In 2014, the Company entered into a €115.0 million multicurrency revolving credit facility with an original maturity date of July 25, 2019. Interest is calculated based on EURIBOR (for euro drawings), and USD-LIBOR (for U.S. Dollar drawings) plus 2.5% - 3.0% margin (depending on leverage ratio). Transaction costs in the amount of \$3.3 million originally incurred in connection with the RCF were recorded as deferred expenses and amortized as finance costs on a straight-line basis over the term of the facility (until July 25, 2019).

An amendment to the RCF entered into in May 2017 (i) reduced the commitment fee paid on the unused commitments from 40% of the Applicable Rate (as defined in the Credit Agreement) to 35% of the Applicable Rate, (ii) extended the maturity date for the RCF to April 25, 2021 and (iii) increased the aggregate amount of revolving credit commitments to €175.0 million. All other terms of the Credit Agreement remained unchanged. Transaction costs in conjunction with the RCF of \$2.3 million related to the 2017 amendment to the Credit Agreement are recorded as deferred expenses and amortized as finance costs on a straight-line basis over the term of the facility (until April 25, 2021).

In April 2019, the Company entered into an amendment to the RCF, effective April 10, 2019, which:

- (i) extended the maturity date for the RCF by three years to April 25, 2024,
- (ii) increased the aggregate amount of revolving credit commitments in Euro by €75.0 million to EUR €250.0 million, and
- (iii) reduced revolving credit interest expense using a revised pricing grid with lower Applicable Rates (credit spreads). As of December 31, 2020, the Company's net leverage ratio was 3.4x, which corresponds to an Applicable Margin of 2.70.

All other terms of the RCF remained substantially unchanged, including the commitment fee, which remains at 35% of applicable margin. As of December 31, 2020 and 2019, no RCF borrowings, as defined in the Credit Agreement, had been drawn, while \$70.3 million and \$28.6 million, respectively, in borrowings under ancillary facilities reduced the overall amount available under the RCF to \$236.5 million. Letters of credit can be issued for the amount available under the RCF and ancillary facilities. The weighted average interest rates on short term borrowings as of December 31, 2020 and 2019 were 2.48% and 2.51%, respectively.

For the years ended December 31, 2020, 2019 and 2018 transaction costs of \$0.6 million, \$0.7 million and \$0.8 million, respectively, were amortized. Unamortized transaction costs that were incurred in conjunction with the RCF in July 2014, the amendment on May 30, 2017 and the amendment on April 2, 2019, amount to \$3.0 million as of December 31, 2020. Unamortized transaction costs as of December 31, 2019 amounted to \$3.4 million and were incurred in conjunction with the RCF in July 2014 and the amendment on May 30, 2017.

(c) Local bank loans and other short term borrowings

As of December 31, 2020, the Company had partly drawn its uncommitted local credit lines in Korea of \$4.6 million and Brazil amounting to \$0.8 million. Neither facility had any borrowings as of December 31, 2019.

The Company had also established ancillary credit facilities by converting the commitments of select lenders under the €250.0 million RCF into bilateral credit agreements (usually overdraft facilities). Borrowings under ancillary lines reduce availability under the RCF but do not count toward debt drawn under the RCF for the purposes of determining whether the financial covenant under the Credit Agreement must be tested.

As of December 31, 2020, the ancillary facilities had \$70.3 million (as of December 31, 2019: \$26.4 million) outstanding. The general terms of these ancillary credit facilities are linked to the terms in the RCF.

During the second quarter 2020, the Company established two additional ancillary facilities in an aggregate amount of €40 million (bringing the number of RCF banks with whom ancillary facilities have been established to six out of ten banks and total ancillary borrowings to €170 million). Since June 30, 2020, the Company had converted 68% of its RCF into ancillary capacity, resulting in an ability to borrow the full amount of commitments under the RCF at any net leverage level. Using exchange rates applicable as of December 31, 2020, the €250 million RCF amounted to approximately \$307 million.

By converting the existing RCF commitments of select bank group participants, Orion has established local ancillary credit facilities for OEC GmbH and OEC LLC. As of December 31, 2020, the OEC GmbH facility had \$43.5 million (prior year: \$26.4 million) outstanding and the OEC LLC facility had \$26.8 million (prior year: \$2.2 million) outstanding.

Future Years Payment Schedule

The following table shows the residual terms of our Term Loan and its impact on our cash flows based on the agreed maturity date, the repayment schedule, and the total interest amounts. Implied three months Euro forward interest rates and implied U.S Dollar forward interest rates as applicable on December 31, 2020 were used to calculate the repayment amounts.

	Interest	Scheduled Repayment	Total
	(In millions)		
2021.....	\$ 15.0	\$ 8.5	\$ 23.5
2022.....	14.9	8.5	23.3
2023.....	15.1	8.5	23.6
2024.....	8.9	642.5	651.4
Total	\$ 53.9	\$ 668.0	\$ 721.8

Covenant Compliance

The Credit Agreement contains certain non-financial covenants that, among other things, limit the Company's ability and the ability of certain of its subsidiaries to (i) incur additional debt, (ii) pay dividends, repurchase shares or make certain other restricted payments or investments, (iii) incur liens, (iv) sell assets, (v) to pay dividends or to make other payments to the Company, (vi) enter into affiliate transactions, (vii) engage in sale and leaseback transactions, and (viii) consolidate, merge, sell or otherwise dispose of all or substantially all of the Company's assets. These covenants are subject to significant exceptions and qualifications.

In addition, there is one financial covenant under the Credit Agreement, the First Lien Leverage Ratio ("FLLR"), defined as Consolidated First Lien Debt divided by Consolidated Adjusted EBITDA for the trailing twelve months ("TTM"). The FLLR is not permitted to exceed 5.5x TTM EBITDA and is tested each quarter RCF utilization exceeds 35%, as defined in the Credit Agreement (the "Covenant Trigger"). Notably, not all debt counts toward RCF utilization for purposes of calculating the Covenant Trigger, namely, term debt, debt drawn under ancillary credit facility lines and debt drawn under any uncommitted local credit lines are excluded. FLLR, Consolidated First Lien Debt and Consolidated Adjusted EBITDA have the meanings given to them in the Credit Agreement.

Note I. Business Combinations, Goodwill and Intangible Assets

Business Combination

On October 31, 2018, the acquisition for 100% of shares of the acetylene carbon black manufacturer Société du Noir d'Acétylène de l'Aubette, SAS ("SN2A") from LyondellBasell Industries Holdings B.V. was completed. The acquisition was accounted for as a business combination. The acquisition had an aggregate purchase price of \$36.8 million.

This acquisition is expected to strengthen the Company's position in the Specialty Carbon Black market by adding acetylene carbon black to its product portfolio. In finalizing the purchase price accounting during the third quarter of 2019, the previously disclosed purchase price allocation as of the closing date was updated to reflect adjustments existing at the acquisition date and identified during the measurement period under ASC 805 - Business Combinations.

The following table summarizes the fair values of assets acquired and liabilities assumed as of the date of acquisition:

	(in thousands)
Assets	
Cash.....	\$ 213
Other current assets.....	176
Accounts receivables.....	1,578
Inventories	924
Property, plant and equipment	5,317
Intangible assets.....	12,766
Total assets acquired	<u>\$ 20,974</u>

(in thousands)

Liabilities	
Current liabilities	\$ 2,488
Deferred tax liabilities	4,716
Total liabilities assumed	<u>\$ 7,204</u>
Net assets acquired	<u>\$ 13,770</u>
Consideration:	
Cash consideration paid	<u>\$ 36,784</u>
Goodwill	<u>\$ 23,014</u>

The acquisition was accounted for using the acquisition method. Tangible and identifiable intangible assets acquired and liabilities assumed were recorded at fair value as of the acquisition date.

During the quarter ended September 30, 2019, we completed the purchase accounting for the acquisition of SN2A and we reduced the total fair value of intangible assets acquired from \$44.3 million to \$12.8 million based on an improved understanding of the allocation of future expected cash flows since the date of acquisition including an adjustment to the applied discount rate aligned to target specific considerations. In addition, we reduced the fair value of acquired property, plant and equipment from \$5.8 million to \$5.3 million due to third party appraisals and we reduced the related deferred tax liabilities from \$13.7 million by \$9.0 million to \$4.7 million accordingly to reflect the impact of changes in fair values of the tangible and intangible assets. These changes resulted in \$23.0 million of goodwill being recorded and allocated to our Specialty Carbon Black Segment. We also recorded a reduction in depreciation and amortization expense of \$1.0 million and an increase in net income of \$0.7 million respectively, in the third quarter of fiscal 2019 related to prior periods as a result of the changes in fair values of tangible and intangible assets and the associated deferred tax liabilities.

The fair values of identifiable assets and liabilities acquired were developed with the assistance of a third-party valuation firm. The fair value of acquired property, plant and equipment is valued at its "value-in-use" as there are no known plans to dispose of any assets. The fair value of acquired identifiable intangible assets was determined using the "income approach" on an individual asset basis. The key assumptions used in the calculation of the discounted cash flows include projected revenues, gross margin, operating expenses, and discount rate. The valuations and the underlying assumptions have been deemed reasonable by the Company's management. There are inherent uncertainties and management judgment required in these determinations.

Goodwill

The carrying amount of goodwill attributable to each reportable segment for period ended December 31, 2020 is as follows:

	Rubber	Specialty	Total
	(In thousands)		
Balance as of January 1, 2019	\$ 31,550	\$ 23,996	\$ 55,546
Goodwill recorded in SN2A acquisition	—	23,014	23,014
Foreign currency impact	(595)	(624)	(1,220)
Balance as of December 31, 2019	\$ 30,955	\$ 46,385	\$ 77,341
Foreign currency impact	2,857	4,282	7,139
Balance as of December 31, 2020	\$ 33,812	\$ 50,667	\$ 84,480

Qualitative impairment testing performed during the fiscal year for the Rubber and Specialty reporting units did not indicate a goodwill impairment.

Intangible Assets

The following table provides information regarding Orion's intangible assets:

	December 31,					
	2020			2019		
	Gross Carrying Value	Accumulated Amortization	Net Intangible Assets	Gross Carrying Value	Accumulated Amortization	Net Intangible Assets
	(In thousands)					
Developed technology and patents	\$ 69,419	\$ 46,229	\$ 23,189	\$ 62,870	\$ 37,402	\$ 25,468
Customer relationships	83,055	75,985	7,070	76,531	69,514	7,017
Trademarks	21,106	13,142	7,964	19,322	10,764	8,558
Long-term contracts	8,156	1,260	6,896	7,430	630	6,800
Other intangible assets	53,845	52,192	1,653	52,708	49,955	2,753
Total intangible assets	\$ 235,581	\$ 188,809	\$ 46,772	\$ 218,862	\$ 168,266	\$ 50,596

Intangible assets are amortized over their estimated useful lives, which range from 3 to 15 years. The weighted average amortization period for all intangible assets as of December 31, 2020 and 2019 was 9.8 years and 8.4 years, respectively. Amortization expense for the years ended December 31, 2020, 2019 and 2018 was \$8.2 million, \$12.9 million and \$20.0 million, respectively, and is included in Cost of sales and Selling, general and administrative expenses in the Consolidated Statements of Operations.

Intangible assets include remeasurements due to the purchase price adjustment in the third quarter of 2019 of SN2A acquisition (see Note I. "Business Combinations, Goodwill and Intangible Assets")

The estimated aggregate amortization expense for intangible assets for the fiscal years ending December 31, 2021 to 2025 and thereafter are as follows:

Year	(In thousands)
2021	\$ 7,899
2022	7,251
2023	6,882
2024	6,812
2025	6,748
Thereafter	11,180
Total aggregated amortization	\$ 46,772

Note J. Accruals and Other Liabilities

Current accrued liabilities consist of the following:

	December 31,	
	2020	2019
	(In thousands)	
Accrued employee compensation	\$ 21,635	\$ 24,746
Accrued liabilities for sales and procurement	6,968	3,274
Accrued liabilities for restructuring	8,039	4,765
Other accrued liabilities	12,535	12,145
Total	\$ 49,176	\$ 44,931

Other current liabilities consist of the following:

	December 31,	
	2020	2019
	(In thousands)	
Employee related liabilities	\$ 6,581	\$ 4,787
Customer down payments	922	1,018
Liabilities for environmental tax	385	4,824
Liabilities for withholding tax	155	1,417
Liabilities for VAT	675	555
Liabilities for property tax	785	—
Liabilities for outstanding invoices	7,112	5,902
Liabilities for leases	12,077	7,598
Other current liabilities	7,983	6,407
Total	\$ 36,676	\$ 32,509

Other long-term liabilities consist of the following:

	December 31,	
	2020	2019
	(In thousands)	
Employee related liabilities	\$ 5,855	\$ 5,740
Liabilities for asset retirement obligation	1,666	2,938
Environmental protection liabilities	1,250	1,240
Liabilities for leases	74,526	21,463
Other non-current liabilities	22,833	9,320
Total	\$ 106,131	\$ 40,701

For the years ended December 31, 2020 and 2019 no liabilities for ARO's were settled.

Note K. Financial Instruments and Fair Value Measurement

The Company measures financial instruments, such as derivatives, at fair value at each balance sheet date. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value of an asset or a liability is measured using the assumptions that market participants would use when pricing the asset or liability, assuming that market participants act in their economic best interest. The Company uses valuation techniques, including cash flow and present value methods, that are appropriate in the circumstances and for which sufficient data are available to measure fair value, maximizing the use of relevant observable inputs and minimizing the use of unobservable inputs.

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 — Unadjusted quoted market prices in active markets for identical assets or liabilities that the entity can access at the measurement date.

Level 2 — Inputs other than quoted prices within Level 1 that are observable for the asset or liability, either directly (i.e., as prices) or indirectly (i.e., derived from prices such as 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 — Unobservable inputs for the asset or liability.

For financial assets and liabilities that are recognized in the financial statements on a recurring basis, the Company determines whether transfers have occurred between levels in the hierarchy by re-assessing categorization at the end of each reporting period. There were no transfers of assets measured at fair value between Level 1 and Level 2 and there were no Level 3 investments during fiscal 2020 or 2019.

The following table shows the fair value measurement based on observable inputs such as interest rates and are classified as Level 2 within the fair value hierarchy:

	Derivative	Fair Value Hierarchy	December 31,	
			2020	2019
(In thousands)				
Receivables from hedges/ derivatives.....			\$ 195	\$ 8,436
Prepaid expenses and other current assets.....	FX hedges	Level 2	195	8,434
Other financial assets (non-current).....		Level 2	—	1
Liabilities from derivatives.....			\$ 23,127	\$ 9,425
Other current liabilities.....	FX hedges	Level 2	296	109
Other liabilities (non-current).....	Cross currency and interest rate swaps	Level 2	22,831	9,316
Term loan.....		Level 2	\$ 667,980	\$ 643,051
Local bank loans.....		Level 2	\$ 75,640	\$ 29,762

At both December 31, 2020 and 2019, the fair values of cash and cash equivalents, accounts 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.

See Note L-Accounting for Derivative Instruments and Hedging Activities for additional information related to derivatives and fair value.

Note L. Accounting for Derivative Instruments and Hedging Activities

Risk management

The Company's business operations are exposed to changes in interest rates, foreign currency exchange rates and commodity prices because the Company 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, the Company is subject to credit and market risk. If a counterparty fails to fulfill its performance obligations under a derivative contract, the Company'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 the Company, thus creating a payment risk for the Company. The Company minimizes counterparty credit (or repayment) risk by entering into transactions with major financial institutions of investment grade credit rating. The Company'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 as of December 31, 2020 and 2019.

Cash flow hedge

The Company has designated, as of November 28, 2014 the entire interest rate caps entered in 2014 and denominated in Euro with an initial nominal amount of €375.0 million against the Term Loan tranches denominated in Euro with an initial nominal amount of €399.0 million, as well as the entire interest rate caps entered in 2014 and denominated in USD with an initial nominal amount of \$350.0 million against Term Loan tranches denominated in USD with an initial nominal amount of \$358.0 million with respect to quarterly interest payments exceeding a three months EURIBOR rate of 1.0% and a three months USD-LIBOR rate of 2.5% respectively. On November 14, 2017 the Company acquired floored forward interest rate swaps to hedge interest rate risk on current Euro-denominated term loan financing. On May 15, 2018 the Company entered into a \$235.0 million cross-currency swap to hedge interest rate risk on current USD-denominated term loan financing which replaced the USD-denominated Caps terminated on May 14, 2018. In December 2020, the Company unwound \$38.0 million of the \$235.0 million cross currency swap maturing in 2024 at a realized loss of approximately \$2.4 million. In a separate transaction occurring in December 2020, the Company unwound a \$30 million swap maturing in 2021 at a realized loss of approximately \$3.9 million.

The Company designated the Euro-denominated interest rate caps, the Euro-denominated interest rate swap at closing in November 2017 and the cross-currency swaps at closing in May 2018 in the same manner. The Company has performed a hedge effectiveness test based on the critical terms match method (prospectively) and the dollar offset test (retrospectively), both on designation date and as of December 31, 2020, which confirmed hedge effectiveness.

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 foreign currency translation gains or losses 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.

To reduce the Company's foreign currency exposure a portion of the U.S. Dollar denominated Term Loan was designated as a hedge of net investment in a foreign operation. Since January 1, 2015, the Company had designated \$180.0 million of the total USD denominated term loan held by a Germany-based subsidiary as the hedging instrument to hedge the change in net assets of a US subsidiary, which is held by a Germany-based subsidiary, to manage foreign currency risk. Due to the new hedging approach and the new cross currency swap as described above, hedge accounting for the net investment hedge was discontinued on May 15, 2018. An unrealized loss of \$2.2 million remains within other comprehensive income until it is recycled through profit and loss upon divestment of the hedged item.

See Note K-"Financial Instruments and Fair Value Measurement" for additional information related to derivatives and fair value.

Note M. Employee Benefit Plans

Provisions are established to cover defined benefit plans for retirement, disability and surviving dependents' pensions. The benefit obligations vary depending on the legal, tax and economic circumstances in the various countries in which the Company operates. Generally, the level of benefit depends on the length of service and the remuneration.

In 2020 and 2019, Germany accounted for approximately 93.3% and 91.8%, respectively, of provisions for projected defined benefit pension plan obligations. There are also defined contribution pension plans in Germany and the United States for which the Company makes regular contributions to off-balance sheet pension funds managed by third party insurance companies.

In South Korea, the company's pension plan provides, at the option of employees for either projected benefit or defined contribution benefits. Plan assets relating to this plan reduce the pension provision disclosed.

Obligations and Funded Status

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

Change in Projected Benefit Obligation

	December 31,	
	2020	2019
	(In thousands)	
Present value of projected benefit obligation at the beginning of the year	\$ 79,389	\$ 67,623
Actuarial (gain)/ loss	4,926	11,983
Service cost	561	588
Interest cost	1,185	1,694
Benefits paid	(1,680)	(1,346)
Other	—	—
Curtailments, settlements, special and contractual termination benefits	—	—
Currency translation	6,878	(1,153)
Present value of projected benefit obligation at the end of the year	\$ 91,259	\$ 79,389

Based on the weighted Macaulay method the projected benefit obligation has a duration of 21.0 years (prior year: 21.0 years).

Change in Plan Assets

	December 31,	
	2020	2019
	(In thousands)	
Fair value of plan assets at the beginning of the year	\$ 6,580	\$ 6,391
Actual return on plan assets	125	119
Employer contributions	275	552
Actuarial gain/(loss)	—	—
Benefits paid	(525)	(277)
Settlement	—	—
Other adjustments	—	—
Currency translation	377	(205)
Fair value of plan assets at the end of the year	\$ 6,831	\$ 6,580

The plan assets are held by Orion Engineered Carbons Co. Ltd. Korea, Bupyeong-gu, South Korea, and relate to qualifying insurance policies. These insurance policies do not have a quoted market price. The actual return on plan assets amounted to \$0.1 million and \$0.1 million for the years ended December 31, 2020 and 2019, respectively.

Net Funded Status

	December 31,	
	2020	2019
	(In thousands)	
Projected benefit obligation	\$ 91,259	\$ 79,389
Fair value of plan assets	6,831	6,580
Net funded status	\$ 84,428	\$ 72,809

Amount Recognized in the Consolidated Balance Sheets

	December 31,	
	2020	2019
	(In thousands)	
Non-current assets	\$ —	\$ —
Current liabilities	1,118	908
Non-current liabilities	83,310	71,901
Net liability recognized - pension plans	\$ 84,428	\$ 72,809

Pension Assumptions and Strategy

The assumptions in the table below were used in the actuarial valuation of the underlying the obligations:

Assumptions	December 31,	
	2020	2019
Discount rate	0.6%	1.0%
Expected long-term rate of return on plan assets	2.0%	2.0%
Rate of compensation/salary increase	3.0%	3.0%
Future pension increase	1.5%	1.5%
Mortality	Heubeck 2018G	Heubeck 2018G

Mortality is based on Heubeck guidelines, the generally accepted biometric calculation bases for the balance sheet valuation of pension obligations in Germany. A 0.5% increase or decrease in the discount rate or in the future pension increase would have impacted the projected benefit obligation as follows:

Sensitivities	December 31, 2020			
	Discount rate		Future pension increase	
	0.5% decrease	0.5% increase	0.5% decrease	0.5% increase
	(In thousands)			
Impact on projected benefit obligation	\$ 8,779	\$ (7,612)	\$ (11,527)	\$ 12,797

Net Periodic Pension Cost (Benefit)

	Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
Service cost	\$ 561	\$ 588	\$ 604
Interest cost	1,185	1,694	1,758
Expected return on plan assets	(125)	(119)	(174)
Past service cost/(income) and other adjustments	—	—	253
Net periodic pension cost	\$ 1,621	\$ 2,163	\$ 2,441

Effective at the end of 2013, all defined benefit plans in Germany were modified to close access to new participants and freeze benefits accrued under these plans at December 31, 2013 levels. Interest expense on the frozen obligation relating to these plans will continue to accrue. In addition, one program during the year ended December 31, 2016 ceased due to the closure of our Ambès (France) plant.

The total expected defined benefit pension contribution amounts to \$1.7 million in 2020.

The Company paid \$12.5 million, \$13.9 million and \$12.8 million for the years ended December 31, 2020, 2019 and 2018, respectively, for state defined contribution pension schemes (statutory pension insurance) in Germany and other countries. This amount is also recognized as personnel expenses.

Estimated Future Benefit Payments

The Company expects that the following benefit payments will be made to plan participants in the years from 2021 to 2030:

	(In thousands)
Benefit payments	
2021	\$ 1,579
2022	\$ 1,990
2023	\$ 2,116
2024	\$ 2,814
2025	\$ 2,551
2026 - 2030	\$ 14,251

The Company does not anticipate making funding contributions to the Pension Plan in 2021.

Amounts Recognized in Accumulated Other Comprehensive (Income)/Loss

Overall net actuarial loss amounted to \$5.3 million and comprises \$4.9 million pension-related and \$0.4 million other personnel-related costs.

Amounts recognized in AOCI as of December 31, 2020 and 2019 related to the Company's defined benefit pension plan were as follows:

	December 31,	
	2020	2019
	(In thousands)	
Net actuarial (gain) loss	\$ 4,926	\$ 11,983
Net prior service cost	—	—
Balance in accumulated other comprehensive (income) / loss	\$ 4,926	\$ 11,983

The estimated amounts that will be amortized from accumulated other comprehensive loss into net periodic benefit cost in 2021:

	2021	
	(In thousands)	
Net actuarial (gain) loss	\$	4,999
Prior service cost (credit)		—
Net amount recognized	\$	4,999

Plan Assets

The fair value (all Level 2) of Orion's pension plan assets as of December 31, 2020 and 2019, by asset category, is as follows:

	December 31,	
	2020	2019
	(In thousands)	
Other securities	6,831	6,580
Total pension plan assets	\$ 6,831	\$ 6,580

Defined Contribution Plans

We provide tax-qualified retirement contribution plans in the United States for the benefit of all full-time employees. The plans are designed to provide employees with an accumulation of funds for retirement on a tax-deferred basis. For the years ended December 31, 2020, 2019 and 2018 the Company contributions to the Employee Savings Plans were \$2.6 million, \$2.9 million and \$2.9 million, respectively.

Note N. Stock-Based Compensation

On an annual basis since 2015, the Company has implemented a long-term incentive plan ("LTIP") which grants awards to employees and officers selected by the Compensation Committee of the Board of Directors (the "Compensation Committee"). Performance-based Restricted Stock Unit ("PSU") awards are earned based on achievement against one or more performance metrics established by the Compensation Committee in respect of a specified performance period. Earned PSUs range from zero to a specified maximum percentage of a participant's target award based on the achievement of applicable performance metrics, and are subject to vesting terms based on continued employment. All PSUs are granted under, and are subject to the terms and conditions of, the Company's 2014 Omnibus Incentive Compensation Plan (the "Omnibus Plan").

The Company also issues Restricted Stock Units ("RSU") in certain instances, under the LTIP plans, as sign-on incentives and one-time grants for employees who are non-participants in the LTIP plans. These RSUs vest ratably over a three-year period and vesting occurs on the anniversary of the hire date related to the sign-on grants and the grant date for the grants to employees who are non-participants in the LTIP plans.

Under the LTIP plans, the PSU vesting period is three years with cliff vesting occurring on December 31 of the second full year subsequent to the date of the grant. For example, if a PSU grant was issued in June 2020 the PSUs would fully vest on December 31, 2022 with no ratable vesting during the vesting period. The RSUs vesting period is ratably over three years starting on January 1 in the year of the grant. For example, the employee would earn one third of the RSU on December 31 starting in the year of the grant and the remaining two thirds each December 31 for 2 years immediately subsequent to the year of the grant.

In April 2018, the Compensation Committee established a stock compensation plan for the Board of Directors under the existing Omnibus Incentive Compensation Plan.

The following table provides detail as to expenses recorded within operating income with respect to stock based compensation:

	Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
2015 Plan.....	\$ —	\$ —	\$ 777
2016 Plan.....	—	1,083	4,566
2017 Plan.....	—	3,016	5,052
Stock compensation plan for Board of Directors.....	400	561	563
2018 Plan.....	2,094	3,435	2,961
Individual RSU incentive	544	453	—
2019 Plan.....	871	891	—
2020 Plan.....	525	—	—
Total expenses.....	\$ 4,434	\$ 9,438	\$ 13,919

In the following table summarizes the activity of our PSUs within year ended December 31, 2020:

Period granted	Performance period	PSUs outstanding at January 1,	PSUs granted	Performance based adjustment	PSUs settled	PSUs forfeited	PSUs outstanding at December 31,	PSUs expected to vest	Weighted average grant date fair value
2017	2017 - 2019	418,252	—	(40,087)	(378,165)	—	—	—	\$ 24.89
2018	2018 - 2020	355,766	—	(351,406)	—	(4,360)	—	—	\$ 39.24
2019	2019 - 2021	229,727	1,278	—	—	(20,253)	210,753	102,217	\$ 11.48
2020	2020 - 2022	—	289,628	—	—	(2,029)	287,599	202,766	\$ 11.60
	Total 2020	1,003,745	290,906	(391,493)	(378,165)	(26,642)	498,352	304,984	
	Total 2019	1,594,990	332,891	299,499	(977,106)	(246,529)	1,003,745	917,255	
	Total 2018	1,610,894	450,977	110,215	(557,337)	(19,759)	1,594,990	1,556,011	

In the following table summarizes the activity of our RSUs within year ended December 31, 2020:

Period granted	Vesting period	RSUs outstanding January 1,	RSUs granted	Performance based adjustment	RSUs settled	RSUs forfeited	RSUs outstanding at December 31,	RSUs expected to vest	Weighted average grant date fair value
Individual RSU incentive:									
2018	2018 - 2021	23,878	—	—	—	—	23,878	23,878	\$ 25.81
2019	2019 - 2022	45,257	—	—	—	—	45,257	45,257	\$ 15.89
2020	2020 - 2023	—	19,000	—	—	—	19,000	19,000	\$ 12.78
LTIP Plans:									
2019	2019 - 2021	128,447	1,278	—	—	(8,057)	121,669	121,770	\$ 14.74
2020	2020 - 2022	—	162,652	—	—	(2,029)	160,623	155,825	\$ 12.51
	Total 2020	197,582	182,930	—	—	(10,086)	370,427	365,730	
	Total 2019	35,817	219,197	—	(11,939)	(45,493)	197,582	197,582	
	Total 2018	—	35,817	—	—	—	35,817	35,817	

Certain members of our Board of Directors receive compensation in form of restricted shares ("RSs") in accordance with the 2014 Non-employee Director Plan. Under this plan 78,656 RSs are currently outstanding. The RSs will vest and become non-forfeitable on the first anniversary of the grant date.

As of December 31, 2020, we had unrecognized compensation cost of \$5.1 million, based on the target amounts, related to unvested PSUs, RSUs and RSs, which is expected to be recognized over a weighted average period of 1.5 years. The closing price of the Company's shares and therefore the intrinsic value of one PSU or RSU outstanding was \$17.14 as of December 31, 2020, \$19.30 as of December 31, 2019 and \$25.28 as of December 31, 2018. Total intrinsic value of PSUs and RSUs amounted to \$14.9 million, \$23.2 million and \$41.2 million as of December 31, 2020, 2019, and 2018 respectively.

The following table lists the inputs to the valuation model used for calculating the grant date fair values under the 2020, 2019 and 2018 Plans:

	2020 Plan PSU	2019 Plan PSU	2018 Plan PSU
Expected term (in years).....	3	3	3
Dividend yield (%).....	—%	4.65%	1.94%
Expected volatility OEC (%).....	60.84%	33.30%	30.22%
Expected volatility peer group (%).....	33.22%	17.62%	20.09%
Correlation.....	0.7227	0.5205	0.3659
Risk-free interest rate (%).....	0.14%	1.83%	1.46%
Model used.....	Monte Carlo	Monte Carlo	Monte Carlo
Weighted average fair value of PSUs granted.....	\$11.60	\$11.48	\$39.24

In March 2020, 378,165 PSUs (including a performance adjustment reduction of 40,087 PSUs) were settled for the 2017 Plan. In April 2019, 977,106 PSUs (including performance adjustment of 299,499 PSUs) were exercised for the 2016 Plan. In April 2018, 557,337 PSUs (including performance adjustment of 110,215 PSUs) were exercised for the 2015 Plan. The expected term of share awards represents the weighted average period the share awards are expected to remain outstanding. The remaining contractual terms of share units outstanding is December 2021 for the 2019 Plan and December 2022 for the 2020 Plan.

The Company used a combination of historical and implied volatility of its traded shares, or blended volatility, in deriving the expected volatility assumption. The risk-free interest rate assumption is based upon observed interest rates appropriate for the term of stock options. The dividend yield assumption is based on the Company's history.

Stock-based compensation expense is comprised of the following line items:

	Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
Cost of sales.....	\$ 299	\$ 139	\$ 55
Selling expenses.....	462	1,412	2,711
General and administrative expenses.....	3,408	7,364	10,394
Research and development costs.....	265	523	759
Stock-based compensation expense.....	\$ 4,434	\$ 9,438	\$ 13,919

The assumption for estimating expected forfeitures is based on previous experience and based on a 3% rate per year. Actual forfeitures are recorded as they occur. For the full year 2020 expenses recorded in prior years for 2018 and 2019 Plan were partially reversed as the performance condition for the EBITDA and ROCE metrics are no longer expected to be met.

Note O. Restructuring Expenses

Details of all restructuring activities and the related reserves for December 31, 2020, 2019 and 2018 were as follows:

	Personnel expenses	Demolition and Removal costs	Ground remediation costs	Other	Total
	(In thousands)				
Provision at January 1, 2018.....	\$ 646	\$ 2,824	\$ 4,317	\$ 930	\$ 8,717
Charges.....	7,586	1,978	2,919	3,137	15,620
Cost charged against liabilities (assets).....	(324)	(14)	(833)	(8)	(1,180)
Cash paid.....	(5,825)	(2,182)	(3,259)	(3,202)	(14,468)
Foreign currency translation adjustment.....	252	(64)	(206)	(13)	(32)
Provision at December 31, 2018.....	2,334	2,541	2,939	844	8,658
Charges.....	2,801	9	268	2	3,080
Cost charged against liabilities (assets).....	—	—	—	—	—
Cash paid.....	(1,727)	(1,953)	(2,610)	(508)	(6,798)
Foreign currency translation adjustment.....	(9)	(36)	(109)	(20)	(175)

	Personnel expenses	Demolition and Removal costs	Ground remediation costs	Other	Total
	(In thousands)				
Provision at December 31, 2019	3,400	561	488	317	4,765
Charges	3,228	146	4,185	—	7,559
Cost charged against liabilities (assets)	—	—	—	—	—
Cash paid	(3,219)	(476)	(449)	(315)	(4,460)
Foreign currency translation adjustment	150	(1)	28	(2)	174
Provision at December 31, 2020	\$ 3,559	\$ 229	\$ 4,251	\$ —	\$ 8,039

Orion's reserves for restructuring of its Rubber segment in 2020 are reflected in accrued liabilities on the Consolidated Balance Sheets.

In 2016, the Company ceased operations at its plant in Ambes, France as part of the restructuring of its Rubber business segment. Expenses related to the closing include personnel costs, demolition, removal costs and remediation costs and were \$6.5 million, none and \$3.4 million for the years ended December 31, 2020, 2019 and 2018, respectively. Total estimated and recognized costs and total costs remaining as of December 31, 2020 are \$42.4 million and \$8.0 million, respectively.

The restructuring of the South Korean footprint concluded in the second quarter of 2018 resulting in cessation of production at the Bupyeong plant and the sale of the land to a third party. Restructuring income of \$40.3 million reflects the proceeds of the land sale less the remaining book value of the land. Restructuring expenses comprise required costs for land restoration of \$7.2 million and cost to consolidate the two South Korean production sites into one remaining site, including in particular personnel related termination costs of \$4.4 million incurred in fiscal year 2018.

In the periods ending December 31, 2020 and 2019 restructuring expense, net amounted to \$7.6 million and \$3.6 million, respectively. For the year ended December 31, 2018 restructuring income, net was \$24.6 million.

Note P. Accumulated Other Comprehensive Income (Loss)

Changes in each component of AOCI, net of tax, are as follows for fiscal 2020, 2019 and 2018:

	Currency Translation Adjustments	Hedging Activities Adjustments	Pension and Other Postretirement Benefit Liability Adjustment	Total
	(In thousands)			
Balance at January 1, 2018	\$ (554)	\$ (1,801)	\$ (2,965)	\$ (5,320)
Other comprehensive income/(loss) before reclassifications	(8,918)	(6,349)	198	(15,069)
Income tax effects before reclassifications	(1,178)	1,719	(64)	477
Currency translation AOCI	—	284	—	284
Balance at December 31, 2018	(10,650)	(6,147)	(2,831)	(19,628)
Other comprehensive income (loss) before reclassifications	(1,454)	(7,283)	(12,288)	(21,026)
Income tax effects before reclassifications	(177)	2,454	4,020	6,297
Currency translation AOCI	—	85	(90)	(5)
Balance at December 31, 2019	(12,281)	(10,891)	(11,189)	(34,362)
Other comprehensive income (loss) before reclassifications	(13,098)	(2,640)	(5,336)	(21,074)
Income tax effects before reclassifications	(1,164)	699	1,751	1,285
Amounts reclassified from AOCI	—	—	9,916	9,916
Income tax effects on reclassifications	—	—	(3,253)	(3,253)
Currency translation AOCI	—	(653)	(564)	(1,217)
Balance at December 31, 2020	\$ (26,543)	\$ (13,485)	\$ (8,676)	\$ (48,705)

The amounts reclassified out of AOCI and into the Consolidated Statement of Operations for the fiscal year ended December 31, 2020 are presented in the table below. There were no reclassifications in 2019 and 2018.

	Years Ended December 31,	
	2020	
	(In thousands)	
Amortization of actuarial losses (gains) (recorded in interest and other finance expense, net)	\$	9,916
Total before tax		9,916
Tax impact		(3,253)
Total after tax	\$	6,663

The amounts recorded in prior years in AOCI exceeding 10% of the defined benefit obligation are recorded ratably as reclassification of actuarial losses over the current year through profit and loss separately from income from operations and amounted to \$9.9 million, for the year end December 31, 2020.

Note Q. Earnings Per Share

Basic EPS is calculated by dividing the profit for the year attributable to ordinary equity holders of the parent by the weighted average number of ordinary shares outstanding during the year.

Diluted EPS is calculated by dividing the profit for the year (numerator) attributable to ordinary equity holders of the parent by the weighted average number of ordinary shares outstanding during the year plus the weighted average number of ordinary shares arising from exercising all dilutive ordinary shares (denominator).

The following table reflects the income and share data used in the basic and diluted EPS computations:

	Years Ended December 31,		
	2020	2019	2018
Net income for the period - attributable to ordinary equity holders of the parent (in thousands)	\$ 18,156	\$ 86,920	\$ 121,310
Weighted average number of ordinary shares (in thousands of shares)	60,430	59,986	59,567
Basic EPS	\$ 0.30	\$ 1.45	\$ 2.04
Dilutive effect of share based payments (in thousands of shares)	977	1,313	1,482
Weighted average number of diluted ordinary shares (in thousands of shares)	61,407	61,300	61,049
Diluted EPS	\$ 0.30	\$ 1.42	\$ 1.99

In 2018, repurchases of treasury shares were taken into account on a daily basis. In 2018, 2019 and 2020 new shares were generated and transferred for settlement of stock based compensation ("2015 Plan", "2016 Plan", "RSU Plan", and "2017 Plan"), which was also included in the weighted number of shares. The dilutive effect of the share-based payment transaction is the weighted number of shares considering the grant date, forfeitures and executions during the respective fiscal years. The effect is determined by using the treasury stock method. Anti-dilutive shares were immaterial as of December 31, 2020, 2019 and 2018.

Note R. Income Taxes

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

	Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
<i>Current</i>			
Domestic ⁽¹⁾	\$ 16,267	\$ 16,250	\$ 9,166
Foreign	4,011	1,140	41,412
Total	20,279	17,390	50,578
<i>Deferred</i>			
Domestic ⁽¹⁾	\$ (4,875)	\$ 7,412	\$ 6,164
Foreign	(7,271)	8,414	(9,798)
Total	(12,146)	15,826	(3,634)
Provision for income taxes	\$ 8,132	\$ 33,216	\$ 46,944

(1) Domestic refers to Germany.

Income before income taxes for fiscal years 2020, 2019 and 2018 is as follows:

	Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
Domestic ⁽¹⁾	\$ 25,556	\$ 112,427	\$ 115,594
Foreign.....	732	7,710	52,660
Income before income taxes	\$ 26,288	\$ 120,137	\$ 168,254

(1) Domestic refers to Germany.

A corporate income tax rate of 15.00% was used to calculate the current and deferred taxes for the German entities. A solidarity surcharge of 0.825% (calculated as 5.5% on the corporate income tax rate) and a trade tax rate of 16.18%, for the years ended December 31, 2020, 2019 and 2018, respectively, were also reflected in the calculation. As a result, the overall tax rate for the German entities was 32.00%, for the years ended December 31, 2020, 2019 and 2018 respectively. The current and deferred taxes for the non-German entities were calculated using their respective country-specific tax rates.

The following tax reconciliation shows the difference between the expected income taxes using the German overall tax rate of 32.0% and the effective income taxes in the income statement, for the years ended December 31, 2020, 2019 and 2018, respectively. The German tax rate is applied because the primary operating entity located in Germany holds all non-German operations.

	Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
Income before income taxes	\$ 26,288	\$ 120,137	\$ 168,254
Expected income tax thereon.....	8,412	38,444	53,841
Tax rate differential.....	(1,412)	(3,517)	(6,695)
Change in valuation allowance on deferred tax assets and for losses without recognition of deferred taxes.....	(1,311)	450	(204)
Change in the tax rate and tax laws.....	(118)	115	(802)
Income taxes for prior years.....	(1,205)	(3,247)	876
Tax on non-deductible interest expenses.....	1,051	1,232	1,096
Taxes on other non-deductible expenses, and non-deductible taxes.....	2,755	745	(893)
Effects of changes in permanent differences.....	—	(45)	96
Tax effect on tax-free income.....	(169)	(898)	(532)
Other tax effects.....	130	(63)	161
Effective income taxes as reported	\$ 8,132	\$ 33,216	\$ 46,944
Effective tax rate.....	30.93%	27.65%	27.90%

The U.S. tax reform enacted in December 2017 reduced the corporate income tax rate from 35.0% to 21.0% in the U.S..

Other non-deductible expenses and non-deductible taxes which are non-creditable in the U.S. were \$0.9 million, \$2.3 million and \$1.6 million for the years ended December 31, 2020, 2019 and 2018, respectively. Non-deductible taxes include taxes from Brazil which is a disregarded entity for U.S. tax purposes.

Tax rate differential for the year ended December 31, 2018 are mainly driven by a benefit \$6.3 million from taxable income resulting from a land sale completed in Korea during 2018.

Income taxes for prior year ended December 31, 2019 are mainly driven by result of the conclusion of a tax audit in Poland.

The favorable tax effect from income taxes for prior years was mainly driven by return to provision adjustments from tax return filings in 2020. The amounts accrued for the return to provision adjustments were released accordingly in 2020.

Tax effect from changes in valuation allowance on deferred tax assets and for losses without recognition of deferred taxes for the year ended December 31, 2020 included the impact from lower pre-tax earnings attributed to the economic downturn from COVID-19. Also included was a benefit from the favorable change of the valuation allowance related to U.S. tax credits of \$3.6 million.

The unfavorable tax effect from other non-deductible expenses and non-deductible taxes were mainly driven by non-deductible expenses in connection with the Company's LTIP.

Income tax expense recognized in the Consolidated Statements of Operations were \$8.1 million in 2020, \$33.2 million in 2019 and \$46.9 million in 2018. Tax expense/(benefit) recognized directly in equity were \$(1.1) million in 2020, \$6.2 million in 2019 and \$0.3 million in 2018.

Significant components of deferred income taxes were as follows:

Deferred tax assets	December 31,	
	2020	2019
	(In thousands)	
Assets		
Intangible assets	\$ 241	\$ 197
Property, plant and equipment	5,851	8,363
Financial assets	11,138	7,004
Inventories	3,368	2,817
Receivables, other assets	3,365	3,212
Liabilities		
Provisions	24,710	20,662
Liabilities	32,810	41,434
Other		
Loss carryforwards	39,753	39,595
Interest carryforwards	11,227	9,967
Tax credits	4,265	3,185
Other	—	2,028
Total deferred tax assets (gross)	136,729	138,463
Valuation allowance	(42,669)	(41,994)
Total deferred tax assets (net)	\$ 94,060	\$ 96,468

Deferred tax liabilities	December 31,	
	2020	2019
	(In thousands)	
Assets		
Intangible assets	\$ 3,717	\$ 3,673
Property, plant and equipment	36,426	33,040
Financial assets	3,153	7,649
Receivables, other assets	12,553	11,883
Liabilities		
Provisions	7,882	8,203
Liabilities	5,947	12,568
Other	10,589	14,039
Total deferred tax liabilities	\$ 80,267	\$ 91,057

The following table illustrates the gross and net deferred tax positions after the application of jurisdictional netting.

Net deferred tax position	December 31,	
	2020	2019
	(In thousands)	
Deferred tax assets		
Gross deferred tax assets	\$ 94,060	\$ 96,468
Net deferred tax assets	52,563	48,720
Deferred tax liabilities		
Gross deferred tax liabilities	80,267	91,057
Net deferred tax liabilities	38,770	43,308
Net deferred tax asset / (liability) positions	\$ 13,793	\$ 5,412

Management assesses the recoverability of deferred tax assets. The assessment depends on future taxable profits being generated during the periods in which tax measurement differences reverse and tax loss carryforwards can be claimed. Orion expects that sufficient taxable income will be available to recover deferred tax assets.

As of December 31, 2020 and 2019, certain loss carryforwards were subject to restrictions with respect to the offsetting of losses. No deferred tax assets were recorded on these loss carryforwards if it is not likely that they will be utilized by future taxable income.

The following tax loss and interest carryforwards were recognized as of December 31, 2020 and 2019 (gross amounts):

	December 31,	
	2020	2019
	(In thousands)	
Corporate income tax loss carryforwards.....	\$ 147,270	\$ 149,237
Interest carryforwards for tax purposes	35,338	31,463
Total	\$ 182,608	\$ 180,700

The change between the recognized tax loss and interest carryforwards as of December 31, 2020 compared to 2019 is mainly driven by the taxable income of our German Tax Group and other German entities.

No deferred tax assets were recognized for the following items (gross amounts):

	December 31,	
	2020	2019
	(In thousands)	
Deductible temporary differences	\$ 46,287	\$ 41,994
Corporate income tax loss carryforwards.....	115,078	107,110
Interest carryforwards for tax purposes	35,338	31,463
Total	\$ 196,703	\$ 180,567

The following table provides detail surrounding the expiration dates of the gross amount of tax loss carryforwards and tax credits:

	Net operating loss carryforwards		Tax Credits	
	(In thousands)			
2021 to 2027.....	\$	—	\$	—
2028 and thereafter		45,458		—
Indefinite carryforwards.....		101,812		4,265
Total	\$	147,270	\$	4,265

As of December 31, 2020, the company's net operating loss carryforwards primarily relate to net operating losses which are due to expire at various dates, but not later than 2036.

No deferred taxes were recognized on a taxable temporary difference of \$12.6 million (prior years: 2019: \$14.8 million, 2018: \$11.8 million) in connection with subsidiaries.

Deferred tax liabilities amounting \$0.8 million, (2019: \$1.7 million, 2018: \$1.8 million) were recognized for subsidiaries for which a dividend distribution is expected.

We are not aware of any events which would cause temporary differences, for which a deferred tax liability has not been recognized.

Tax uncertainties

A reconciliation of the beginning and ending amount of unrecognized tax benefits for the following fiscal years:

	2020	2019
	(In thousands)	
Balance at beginning of the year	\$ 11,616	\$ 14,771
Additions based on tax positions related to the current year	146	246
Additions for tax positions of prior year	1,263	—
Reductions of tax positions of prior year	—	(3,401)
Reductions related to settlements	—	—
Reductions from lapse of statute of limitations	—	—
Balance at end of the year	\$ 13,025	\$ 11,616

We recognize interest related to unrecognized tax benefits and penalties as income tax expense. During 2020 we accrued no penalties and interest of \$1.1 million to the unrecognized tax benefits (noted above). As of December 31, 2020, we had \$5.1 million of accrued penalties and interest. We recognized no liabilities for penalties and accrued interest of \$0.5 million during 2019 and had an accrual of \$4.0 million as of December 31, 2019 for penalties and interest while we recognized no liabilities for penalties and accrued \$0.5 million interest during 2018. We accrued penalties and interest in total \$3.4 million as of December 31, 2018.

Orion and certain subsidiaries are under audit in several jurisdictions, and in particular in Germany for periods 2011-2017. A further change in unrecognized tax benefits may occur within the next twelve months related to the potential settlement of one or more of these audits or the lapse of applicable statutes of limitations. The estimated range of the impact on unrecognized tax benefits cannot be determined at this time.

Note S. Commitments and Contingencies

Other Long-Term Commitments

To safeguard the supply of raw materials, contractual purchase commitments under long-term supply agreements for raw materials, primarily oil and gas, are in place with the following maturities:

Maturity	December 31, 2020	
	(In thousands)	
2021	\$	125,358
2022 to 2025		77,029
2026 and thereafter		—
Total	\$	202,387

Environmental Matters

EPA Action

During 2008 and 2009, the U.S. Environmental Protection Agency ("EPA") contacted all U.S. carbon black producers as part of an industry-wide EPA initiative, requesting extensive and comprehensive information under Section 114 of the U.S. Clean Air Act. The EPA used that information to determine, for each facility, that either: (i) the facility has been in compliance with the Clean Air Act; (ii) violations have occurred and enforcement litigation may be undertaken; or (iii) violations have occurred and a settlement of an enforcement case is appropriate. In response to information requests received by the Company's U.S. facilities, the Company furnished information to the EPA on each of its U.S. facilities. The EPA subsequently sent notices under Section 113(a) of the Clean Air Act in 2010 alleging violations of Prevention of Significant Deterioration ("PSD") and Title V permitting requirements under the Clean Air Act at the Company's Belpre (Ohio) facility. In October 2012, the Company received a corresponding notice and finding of violation (a "NOV") alleging the failure to obtain PSD and Title V permits reflecting Best Available Control Technology ("BACT") at several units of the Company's Ivanhoe (Louisiana) facility, and in January 2013, the Company also received a NOV issued by the EPA for its facility in Borger (Texas) alleging the failure to obtain PSD and Title V permits reflecting BACT during the years 1996 to 2008. A comparable NOV for the Company's U.S. facility in Orange (Texas) was issued by the EPA in February 2013; and the EPA issued an additional NOV in March 2016 alleging more recent non-PSD air emissions violations primarily at the dryers and the incinerator of the Orange facility.

In 2013, Orion began discussions with the EPA and the U.S. Department of Justice about a potential settlement to resolve the NOV's received, which ultimately led to a consent decree executed between Orion Engineered Carbons LLC (for purpose of this note Q. "Orion") and the United States (on behalf of the EPA), as well as the Louisiana Department of Environmental Quality. The consent decree (the "EPA CD") became effective on June 7, 2018. The consent decree resolves and settles the EPA's claims of noncompliance set forth in the NOV's and in a respective complaint filed in court against Orion by the United States immediately prior to the filing of the consent decree.

All five U.S. carbon black producers have settled with the U.S. government.

Under Orion's EPA CD, Orion will install certain pollution control technology in order to further reduce emissions at its four U.S. manufacturing facilities in Ivanhoe (Louisiana), Belpre (Ohio), Borger (Texas), and Orange (Texas) over approximately five years. The EPA CD also requires the continuous monitoring of emissions reductions that Orion will need to comply with over a number of years. Orion has commenced the installation works for its Ivanhoe and Orange facilities. While the construction at Orange has been completed according to schedule despite COVID-19 related impacts, the construction at the Ivanhoe facility has been subject to COVID-19-related delays, and as a result we have declared force majeure with respect to the EPA CD and requested an extension of the timeline for completion of installations. The EPA has not confirmed our extension request but has deferred judgment on it at this time. In line with the EPA's respective request, Orion continues to provide regular updates to the EPA on the Ivanhoe installation works timeline and respective COVID-19 related impacts and mitigation measures.

Under the EPA CD, Orion can choose either its Belpre or Borger facilities as the next site for installation of pollution control equipment with comparable effectiveness. We expect the capital expenditures for installation of pollution control equipment in the remaining Orion facilities to decrease due to economies of scale and synergies from prior installations. We also expect that the third and fourth plants will require significantly less costly pollution control equipment given the requirements of the EPA CD. We estimate the installations of monitoring and pollution control equipment at all four Orion plants in the U.S. will require capital expenditures in an approximate range between \$230 million to \$270 million of which approximately \$123.1 million has been incurred to date. To narrow this range, the Company pursues further scope design and estimation efforts. However, the actual total capital expenditures we might need to incur in order to fulfill the requirements of the EPA CD remain uncertain. The EPA CD allows some flexibility for Orion to choose among different technology solutions for reducing emissions and the locations where these solutions are implemented. The solutions Orion ultimately chooses to implement at its facilities other than Ivanhoe (Louisiana) and Orange (Texas), may differ in scope and operation from those it currently anticipates (including those discussed in the next paragraph) and, for any and all of its three facilities, factors, such as timing, locations, target levels, changing cost estimates and local regulations, could cause actual capital expenditures to exceed or be lower than current expectations or affect Orion's ability to meet the agreed target emission levels or target dates for installing required equipment as anticipated or at all. Orion also agreed to and paid a civil penalty of \$0.8 million and agreed to perform environmental mitigation projects totaling \$0.6 million. Noncompliance with applicable emissions limits could lead to further penalty payments to the EPA.

As part of Orion's compliance plan under the EPA CD, in April 2018, Orion signed a contract with Haldor Topsoe group to install its SNOX™ emissions control technology to remove SO₂, NO_x and dust particles from tail gases at Orion's Ivanhoe, Louisiana Carbon Black production plant. The SNOX™ technology has not been used previously in the carbon black industry.

Orion's Share Purchase Agreement with Evonik in connection with the Acquisition provides for a partial indemnity from Evonik against various exposures, including, but not limited to, capital investments, fines and costs arising in connection with Clean Air Act violations that occurred prior to July 29, 2011. Except for certain less relevant allegations contained in the second NOV received for the Company's facility in Orange (Texas) in March 2016, all of the other allegations made by the EPA with regard to all of the Company's U.S. facilities - as discussed above - relate to alleged violations before July 29, 2011. The indemnity provides for a recovery from Evonik of a share of the costs (including fines), expenses (including reasonable attorney's fees, but excluding costs for maintenance and control in the ordinary course of business and any internal cost of monitoring the remedy), liabilities, damages and losses suffered and is subject to various contractual provisions including provisions set forth in the Share Purchase Agreement with Evonik, such as a de minimis clause, a basket, overall caps (which apply to all covered exposures and all covered environmental exposures, in the aggregate), damage mitigation and cooperation requirements, as well as a statute of limitations provision. Due to the cost-sharing and cap provisions in Evonik's indemnity, the Company expects that substantial costs it has already incurred and will incur in this EPA enforcement initiative and the EPA CD likely will exceed the scope of the indemnity in the tens of millions of US dollars. In addition, Evonik signaled that it is not honoring Orion's claims under the indemnity. In June 2019, Orion initiated arbitration proceedings to enforce its rights against Evonik. Evonik, in turn, has submitted certain counterclaims related to a tax indemnity and cost reimbursement against Orion, which counterclaims we do not believe to be material. Although Orion believes that it is entitled to the indemnity and that its rights thereunder are enforceable, there is no assurance that the Company will be able to recover costs or expenditures incurred under the indemnity as it expects or at all.

See "Item 1A. Risk-Factors-Risks Related to Indebtedness, Currency Exposure and Other Financial Matters-Our agreements with Evonik in connection with the Acquisition require us to indemnify Evonik with respect to certain aspects of our business and require Evonik to indemnify us for certain retained liabilities. We cannot offer assurance that we will be able to enforce claims under these indemnities as we expect."

Pledges and guarantees

The Company has pledged the majority of its assets (amongst others shares in affiliates, bank accounts and receivables) within the different regions excluding China as collateral under the Credit Agreement. The current principal amounts of the outstanding term loans under the Credit Agreement as of December 31, 2020 are \$277.7 million (U.S. Dollar Term Loan), and €390.3 million (Euro Term Loan).

As of December 31, 2020, the Company had thirteen guarantees totaling \$17.6 million issued by various financial institutions.

Note T. Financial Information by Segment & Geographic Area

Segment information

The Company's business is organized by its two carbon black product types. For corporate management purposes and all periods presented, the Company had Rubber Carbon Black and Specialty Carbon Black as reportable operating segments. Rubber carbon black is used in the reinforcement of rubber in tires and mechanical rubber goods, Specialty carbon black products are used as pigments and performance additives in coatings, polymers, printing and special applications.

The following table shows the relative size of the revenue recognized in each of the Company's reportable segment:

	2020	2019	2018
Rubber	61%	66%	65%
Specialty.....	39%	34%	35%

The senior management team, which is comprised of the CEO, CFO and certain other senior management members, is the chief operating decision maker ("CODM"). The senior management team monitors the operating segments' results separately in order to facilitate decisions regarding the allocation of resources and determine the segments' performance. Orion uses Adjusted EBITDA as the segments' performance measure. The CODM does not review reportable segment asset or liability information for purposes of assessing performance or allocating resources.

Adjustments are not allocated to the individual segments as they are managed on a group basis.

Segment reconciliation for the years ended December 31, 2020, 2019 and 2018:

	Rubber	Specialties	Corporate	Total segments
	(In thousands)			
2020				
Net sales from external customers	\$ 691,174	\$ 445,208	\$ —	\$ 1,136,383
Adjusted EBITDA	\$ 90,127	\$ 109,916	\$ —	\$ 200,043
Corporate charges	—	—	(28,643)	(28,643)
Depreciation and amortization of intangible assets and property, plant and equipment ...	(56,968)	(39,558)	—	(96,526)
Excluding equity in earnings of affiliated companies, net of tax	(493)	—	—	(493)
Income from operations before income tax expense and finance costs	32,667	70,358	(28,643)	74,382
Interest and other financial expense, net	—	—	(38,671)	(38,671)
Reclassification of actuarial losses from AOCL	—	—	(9,916)	(9,916)
Income tax expense	—	—	(8,132)	(8,132)
Equity in earnings of affiliated companies, net of tax	493	—	—	493
Net income				\$ 18,156
Assets	\$ 789,290	\$ 466,943	\$ 133,561	\$ 1,389,793
Total expenditures for additions to long-lived assets	\$ 111,499	\$ 27,286	\$ —	\$ 138,785
2019				
Net sales from external customers	\$ 967,899	\$ 508,454	\$ —	\$ 1,476,353
Adjusted EBITDA	\$ 145,170	\$ 122,167	\$ —	\$ 267,337
Corporate charges	—	—	(22,916)	(22,916)
Depreciation and amortization of intangible assets and property, plant and equipment ...	(58,645)	(38,067)	—	(96,713)
Excluding equity in earnings of affiliated companies, net of tax	(558)	—	—	(558)

	Rubber	Specialties	Corporate	Total segments
	(In thousands)			
Income from operations before income tax expense and finance costs	85,967	84,100	(22,916)	147,151
Interest and other financial expense, net	—	—	(27,572)	(27,572)
Income tax expense	—	—	(33,216)	(33,216)
Equity in earnings of affiliated companies, net of tax	558	—	—	558
Net income				\$ 86,920
Assets	\$ 696,516	\$ 417,834	\$ 143,043	\$ 1,257,394
Total expenditures for additions to long-lived assets	\$ 132,556	\$ 26,147	\$ —	\$ 158,703
2018				
Net sales from external customers	\$ 1,032,818	\$ 545,385	\$ —	\$ 1,578,203
Adjusted EBITDA	\$ 144,887	\$ 149,255	\$ —	\$ 294,142
Corporate charges	—	—	910	910
Depreciation and amortization of intangible assets and property, plant and equipment	(57,127)	(41,029)	—	(98,156)
Excluding equity in earnings of affiliated companies, net of tax	(591)	—	—	(591)
Income from operations before income tax expense and finance costs	87,169	108,226	910	196,305
Interest and other financial expense, net	—	—	(28,642)	(28,642)
Income tax expense	—	—	(46,944)	(46,944)
Equity in earnings of affiliated companies, net of tax	591	—	—	591
Net income				\$ 121,310
Assets	\$ 685,243	\$ 436,337	\$ 151,442	\$ 1,273,022
Total expenditures for additions to long-lived assets	\$ 67,885	\$ 43,171	\$ —	\$ 111,057

The sales information noted above relates to external customers only. 'Corporate' includes income and expense that cannot be directly allocated to the business segments or are managed on corporate level and includes finance income and expenses, taxes and items with less bearing on the underlying core business.

Income from operations before income taxes and finance costs of the segment 'Corporate' comprises the following:

	2020	2019	2018
	(In thousands)		
Restructuring expenses/(income)	\$ 7,559	\$ 3,628	\$ (24,633)
Consulting fees related to Company strategy	—	1,280	4,804
Extraordinary expense items related to COVID-19	3,866	—	—
Long Term Incentive Plan	4,434	9,438	13,919
EPA-related expenses	5,228	3,992	2,703
Other non-operating	7,556	4,578	2,297
Expenses/(income) from operations before income taxes and finance costs	\$ 28,643	\$ 22,916	\$ (910)

Geographic information

Net sales	Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
Germany	\$ 486,452	\$ 593,769	\$ 628,709
United States	289,482	394,349	401,935
South Korea	173,452	241,235	279,016
Brazil	64,823	94,541	95,611
China	60,145	63,149	75,638
South Africa	33,998	54,746	56,373
Other	19,486	23,601	24,293
Rest of Europe ⁽¹⁾	8,547	10,964	16,628
Total	\$ 1,136,383	\$ 1,476,353	\$ 1,578,203

(1) Only a holding company is located in Luxembourg, accordingly no revenue is generated in the country of domicile.

For the year ended December 31, 2020, one customer accounted for 10% or more revenue in the Rubber segment and amounted to \$170.3 million. Revenue from the largest customer in the Rubber segment for the year ended December 31, 2019 was \$195.6 million and for the year ended December 31, 2018 was \$201.7 million. Another customer had 10% or more revenue for the periods 2019 and 2018 amounting to \$104.1 million and \$96.8 million, respectively.

Long-lived tangible assets ⁽¹⁾	December 31,	
	2020	2019
	(In thousands)	
Germany	\$ 147,878	\$ 81,388
Sweden	27,856	26,419
Italy	60,463	43,547
Poland	12,933	12,148
Rest of Europe ⁽²⁾	10,727	6,179
Subtotal Europe	259,857	169,681
United States	258,181	220,200
South Korea	120,551	112,303
South Africa	13,076	15,983
Brazil	17,166	23,662
China	27,235	19,655
Other	103	100
Total	\$ 696,169	\$ 561,585

(1) Long-lived assets include property, plant and equipment, net and Operating lease right-of-use assets

(2) Only a holding company is located in Luxembourg, accordingly no revenue is generated in the country of domicile.

Note U. Related Parties

As of December 31, 2020, related parties included one joint venture of Orion that is accounted for using the equity method, "Deutsche Gaßrußwerke" (DGW), and one shareholder of more than 10%.

Related parties include key management personnel having authority and responsibility for planning, directing and monitoring the activities of the Company directly or indirectly and their close family members.

In the normal course of business Orion from time to time receives services from, or sells products to, related unconsolidated parties, in transactions that are either not material or approved in accordance with our Related Party Transaction Approval Policy.

	December 31,	
	2020	2019
	(In thousands)	
Trade receivables from DGW KG	\$ —	\$ 537
Trade payables to DGW KG	\$ 11,800	\$ 17,671

	Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
Purchased carbon black products from DGW KG	\$ 68,849	\$ 89,404	\$ 93,536
Sales and services provided to DGW KG	\$ 1,639	\$ 2,724	\$ 6,464

Note V. Quarterly Financial Information (Unaudited)

Unaudited financial results by quarter for fiscal 2020 and 2019 are summarized below:

	Quarters Ended				Year Ended
	March 31, 2020	June 30, 2020	September 30, 2020	December 31, 2020	December 31, 2020
	(In thousands, except per share amounts)				
Net sales.....	\$ 336,007	\$ 202,648	\$ 282,036	\$ 315,692	\$ 1,136,383
Gross profit.....	\$ 90,193	\$ 33,944	\$ 79,182	\$ 89,030	\$ 292,348
Income from operations.....	\$ 37,543	\$ (12,879)	\$ 24,147	\$ 25,571	\$ 74,382
Income from operations before income tax expense and equity in earnings of affiliated companies.....	\$ 25,534	\$ (23,810)	\$ 11,106	\$ 12,966	\$ 25,795
Net income.....	\$ 18,032	\$ (17,780)	\$ 8,997	\$ 8,906	\$ 18,156
Earnings per Share (USD per share), basic.....	\$ 0.30	\$ (0.30)	\$ 0.15	\$ 0.15	\$ 0.30
Earnings per Share (USD per share), diluted.....	\$ 0.29	\$ (0.29)	\$ 0.15	\$ 0.15	\$ 0.30

	Quarters Ended				Year Ended
	March 31, 2019	June 30, 2019	September 30, 2019	December 31, 2019	December 31, 2019
	(In thousands, except per share amounts)				
Net sales.....	\$ 384,714	\$ 399,016	\$ 370,195	\$ 322,428	\$ 1,476,353
Gross profit.....	\$ 97,969	\$ 104,038	\$ 98,714	\$ 88,987	\$ 389,708
Income from operations.....	\$ 34,699	\$ 41,470	\$ 38,386	\$ 32,596	\$ 147,151
Income from operations before income tax expense and equity in earnings of affiliated companies.....	\$ 28,256	\$ 33,904	\$ 31,886	\$ 25,533	\$ 119,579
Net income.....	\$ 18,954	\$ 24,748	\$ 24,253	\$ 18,965	\$ 86,920
Earnings per Share (USD per share), basic.....	\$ 0.32	\$ 0.41	\$ 0.40	\$ 0.32	\$ 1.45
Earnings per Share (USD per share), diluted.....	\$ 0.32	\$ 0.40	\$ 0.39	\$ 0.31	\$ 1.42

Note W. Subsequent Events

The Company has evaluated events from December 31, 2020 through the date the financial statements were issued. There were no subsequent events that need disclosure.

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

None.

Item 9A. Controls and Procedures

Disclosure Controls and Procedures

An evaluation was carried out, under the supervision and with the participation of management, including the Chief Executive Officer (“CEO”) and Chief Financial Officer (“CFO”), of the effectiveness of the design and operation of our disclosure controls and procedures as defined in Rule 13a-15(e) and 15d-15(e) of the Securities Exchange Act of 1934 as of December 31, 2020. Based on that evaluation, the CEO and the CFO have concluded that our disclosure controls and procedures are effective in ensuring that material information that is required to be disclosed in our reports filed under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms, and that such information is accumulated and communicated to our management, including our CEO and CFO, as appropriate, to allow timely decisions regarding required disclosure.

Management’s Annual Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting (as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act). The Company’s internal control over financial reporting was designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation and fair presentation of the Company’s financial statements for external purposes in accordance with GAAP.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect all misstatements or omissions. In addition, 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.

Management conducted its assessment of the effectiveness of our internal control over financial reporting as of December 31, 2020 based on the framework in Internal Control-Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on that assessment and discussion with the Company’s Audit Committee, management has concluded that, as of December 31, 2020, the Company’s internal control over financial reporting was effective.

Audit Report of the Independent Registered Public Accounting Firm

The Company’s independent registered public accounting firm, Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft, has issued an audit report on management’s internal control over financial reporting which appears below.

Changes in Control over Financial Reporting

No change in internal control over financial reporting as such term is defined in Exchange Act Rule 13a-15(f) occurred during the year ended December 31, 2020 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of Orion Engineered Carbons S.A.

Opinion on Internal Control over Financial Reporting

We have audited Orion Engineered Carbons S.A.'s internal control over financial reporting as of December 31, 2020, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Orion Engineered Carbons S.A. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2020 and 2019, the related consolidated statements of operations, comprehensive income, changes in stockholders' equity and cash flows for each of the three years in the period ended December 31, 2020, and the related notes and our report dated February 18, 2021 expressed an unqualified opinion thereon.

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/ Tobias Schlebusch

Wirtschaftsprüfer

(German Public Auditor)

/s/ Titus Zwirner

Wirtschaftsprüfer

(German Public Auditor)

Ernst & Young GmbH Wirtschaftsprüfungsgesellschaft
Cologne, Germany
February 18, 2021

Item 9B. Other Information

None

Part III

Item 10. Directors, Executive Officers and Corporate Governance

The Directors and certain Governance information required by this item will be included in our Proxy Statement for the 2021 Annual Meeting of Stockholders ("Proxy Statement") and is herein incorporated by reference.

Executive Officers

The following table sets forth certain information concerning our executive officers:

<u>Name</u>	<u>Age</u>	<u>Title</u>
Corning F. Painter	58	Chief Executive Officer
Lorin Crenshaw	45	Chief Financial Officer
Sandra Niewiem	44	Senior Vice President, Global Specialty Carbon Black and EMEA Region
Pedro Riveros	50	Senior Vice President, Global Rubber Carbon Black and Americas Region

Corning F. Painter. Mr. Painter began his career at Air Products in 1984 as part of the company's career development program. He rose through the ranks, progressing through a variety of commercial and operations positions in the U.S. and overseas, and was rapidly promoted several times over the last several years, holding leadership positions in operations, supply chain, corporate strategy and technology. He held the position of Executive Vice President, Industrial Gases until he left Air Products at the end of June, 2018 to become Orion Engineered Carbons group's new Chief Executive Officer starting from September 2018.

Lorin Crenshaw. Mr. Crenshaw joined Orion in November 2019 and has over 20 years of diversified financial experience, including more than 10 years in senior leadership positions with global chemical companies. Immediately prior to Orion, he served as Chief Financial Officer of Albemarle Corporation's global lithium business and also earlier served in several key management roles including Treasurer and Head of Investor Relations while at Albemarle. Mr. Crenshaw also has over ten years of experience with investment management firms Citigroup Asset Management and Prudential Capital Group. Mr. Crenshaw holds an MBA from Columbia University and a BS in Business Administration from Florida A&M University.

Sandra Niewiem. Dr. Niewiem was appointed Senior Vice President Global Specialty Carbon Black and EMEA Region in September 2019. Dr. Niewiem joined Orion in December 2013 and previously held the position of Vice President Global Product Management and Business Development Specialty Carbon Black. She has over 19 years of experience in process industries, engineering and industrial goods, thereof more than 13 years in management consulting at a global consulting firm. Dr. Niewiem holds an economics doctorate from European Business School and a master's in business administration from James Madison University, Virginia.

Pedro Riveros. Mr. Riveros joined Orion Engineered Carbons in the current role in June 2019. He has 25 years of experience in varied general management and business management roles in the industrial gas and chemicals area both in North and South America. Mr. Riveros held several business leadership roles at Air Products, prior to joining Orion, where his key areas of expertise included Business Strategy, Margin Enhancement, Productivity and Supply Chain Management. Mr. Riveros holds a bachelor's degree in mechanical engineering from Rensselaer Polytechnic Institute.

Code of Conduct/Code of Ethics

Orion has adopted a Code of Conduct that applies to all Company employees and directors, including the Chief Executive Officer, the Chief Financial Officer, senior management, the Controller and other senior financial officers. The Code of Conduct is posted on our website, www.orioncarbons.com (under "Legal" then "Compliance Policies" section). In addition, the company has adopted a Code of Ethics that applies to its Chief Executive Officer, Chief Financial Officer and Chief Accounting Officer. The Code of Ethics is posted on our website, www.orioncarbons.com (under "Investors" then "Governance" section). We intend to satisfy the disclosure requirement regarding any amendment to, or waiver of, a provision of the Code of Conduct and Code of Ethics applicable to the Chief Executive Officer, the Chief Financial Officer, senior management, the Controller or other senior financial officers by posting such information on our website.

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.

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 *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. Orion 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.

Item 16. 10-K Summary

None applicable.

<u>Exhibit Number</u>	<u>Description</u>
3.1	Articles of Association of Orion Engineered Carbons S.A. (incorporated by reference to Exhibit 1.1 to the Current Report on Form 6-K furnished on April 16, 2019 (File No. 001-36563))
4.1	Form of Specimen of Common Share Certificate (incorporated by reference to Exhibit 4.1 to Amendment No. 2 to the Registration Statement on Form F-1 filed on July 14, 2014 (File No. 333-196593))
4(b)	Description of Orion Engineered Carbons S.A.'s
10.1	Credit Agreement, dated as of July 25, 2014, among the Company, Orion Engineered Carbons Holdings GmbH, Orion Engineered Carbons Bondco GmbH, Orion Engineered Carbons GmbH, OEC Finance US LLC, the revolving borrowers named therein, the guarantors named on the signature page thereto, the lenders named therein, and Goldman Sachs Bank USA as administrative agent (incorporated by reference to Exhibit 99.1 to the Current Report on Form 6-K furnished on July 31, 2014 (File No. 001-36563))
10.2	First Amendment, dated as of August 7, 2014, to the Credit Agreement, by and among Orion Engineered Carbons S.A., Orion Engineered Carbons Holdings GmbH, Orion Engineered Carbons BondCo GmbH, Orion Engineered Carbons GmbH, OEC Finance US LLC, the Revolving Borrowers named therein, the Guarantors party thereto, the Lenders party thereto, Goldman Sachs Bank USA, in its capacity as administrative agent for the Lenders
10.3	Second Amendment, dated as of September 29, 2016, to the Credit Agreement, by and among Orion Engineered Carbons S.A., Orion Engineered Carbons Holdings GmbH, Orion Engineered Carbons BondCo GmbH, Orion Engineered Carbons GmbH, OEC Finance US LLC, the Revolving Borrowers named therein, the Guarantors party thereto, the Lenders party thereto, Goldman Sachs Bank USA, as Assuming Lender with respect to the Initial Dollar Term Loans and Initial Euro Term Loans
10.4	Third Amendment, dated as of May 5, 2017, to the Credit Agreement, by and among Orion Engineered Carbons S.A., Orion Engineered Carbons Holdings GmbH, Orion Engineered Carbons BondCo GmbH, Orion Engineered Carbons GmbH, OEC Finance US LLC, the Revolving Borrowers named therein, the Guarantors party thereto, the Lenders party thereto, Goldman Sachs Bank USA, as Assuming Lender with respect to the Initial Dollar Term Loans and Initial Euro Term Loans

- 10.5 Fourth Amendment, dated as of May 31, 2017, to the Credit Agreement, by and among Orion Engineered Carbons S.A., Orion Engineered Carbons Holdings GmbH, Orion Engineered Carbons BondCo GmbH, Orion Engineered Carbons GmbH, OEC Finance US LLC, the Revolving Borrowers named therein, the Guarantors party thereto, the Lenders party thereto, Goldman Sachs Bank USA, in its capacity as administrative agent for the Lenders, and UniCredit Bank AG, as arranger with respect to the Amendment (incorporated by reference to Exhibit 99.1 to the Current Report on Form 6-K furnished on July 25, 2017 (File No. 001-36563))
- 10.6 Fifth Amendment, dated as of November 2, 2017, to the Credit Agreement, by and among Orion Engineered Carbons S.A., Orion Engineered Carbons Holdings GmbH, Orion Engineered Carbons BondCo GmbH, Orion Engineered Carbons GmbH, OEC Finance US LLC, the Revolving Borrowers named therein, the Guarantors party thereto, the Lenders party thereto, Goldman Sachs Bank USA, as administrative agent for the Lenders.
- 10.7 Sixth Amendment, dated as of May 3, 2018, to the Credit Agreement, by and among Orion Engineered Carbons S.A., Orion Engineered Carbons Holdings GmbH, Orion Engineered Carbons BondCo GmbH, Orion Engineered Carbons GmbH, OEC Finance US LLC, the Revolving Borrowers named therein, the Guarantors party thereto, the Lenders party thereto, Goldman Sachs Bank USA, as administrative agent for the Lenders.
- 10.8 Seventh Amendment, dated as of October 29, 2018, to the Credit Agreement, by and among Orion Engineered Carbons S.A., Orion Engineered Carbons Holdings GmbH, Orion Engineered Carbons BondCo GmbH, Orion Engineered Carbons GmbH, OEC Finance US LLC, the Revolving Borrowers named therein, the Guarantors party thereto, the Lenders party thereto, Goldman Sachs Bank USA, as administrative agent for the Lenders.
- 10.9 Eights Amendment, dated as of April 2, 2019, to the Credit Agreement, by and among Orion Engineered Carbons S.A., Orion Engineered Carbons Holdings GmbH, Orion Engineered Carbons BondCo GmbH, Orion Engineered Carbons GmbH, OEC Finance US LLC, the Revolving Borrowers named therein, the Guarantors party thereto, the Lenders party thereto, Goldman Sachs Bank USA, as administrative agent for the Lenders.
- 21.1 Subsidiaries of the Registrant
- 23.1 Consent of Independent Registered Public Accounting Firm
- 31.1 Certification by Corning F. Painter pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934
- 31.2 Certification by Lorin Crenshaw pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934
- 32.1 Certification by Corning F. Painter pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
- 32.2 Certification by Lorin Crenshaw pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
- 101.0 XBRL

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.

ORION ENGINEERED CARBONS S.A.

February 20, 2020

By /s/ Corning F. Painter

Name: Corning F. Painter

Title: Chief Executive Officer

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

Signature	Title	Date
<u>/s/ Corning F. Painter</u> Corning F. Painter	Chief Executive Officer (Principal Executive Officer)	February 18, 2021
<u>/s/ Lorin Crenshaw</u> Lorin Crenshaw	Chief Financial Officer (Principal Financial Officer)	February 18, 2021
<u>/s/ Bob Hrivnak</u> Bob Hrivnak	Chief Accounting Officer (Principal Accounting Officer)	February 18, 2021
<u>/s/ Kerry A. Galvin</u> Kerry A. Galvin	Director	February 18, 2021
<u>/s/ Paul Huck</u> Paul Huck	Director	February 18, 2021
<u>/s/ Mary Lindsey</u> Mary Lindsey	Director	February 18, 2021
<u>/s/ Didier Miraton</u> Didier Miraton	Director	February 18, 2021
<u>/s/ Yi Hyon Paik</u> Yi Hyon Paik	Director	February 18, 2021
<u>/s/ Dan F. Smith</u> Dan F. Smith	Director	February 18, 2021
<u>/s/ Hans Dietrich Winkhaus</u> Hans Dietrich Winkhaus	Director	February 18, 2021
<u>/s/ Michel Wurth</u> Michel Wurth	Director	February 18, 2021

CORPORATE INFORMATION

Board of Directors

Dan Smith

Chairman
Former Chairman, President
and Chief Executive Officer
Lyondell Chemical

Corning F. Painter

Chief Executive Officer
Orion Engineered Carbons

Kerry Galvin

Former General Counsel
Lyondell Chemical

Paul Huck

Former Chief Financial Officer
Air Products and Chemicals

Mary Lindsey

Former Chief Financial Officer
Commercial Metals Company

Didier Miraton

Former Chief Executive Officer
Aalmérys SAS

Yi Hyon Paik

Former President and
Chief Strategy Officer
Samsung SDI Company

Hans-Dietrich Winkhaus

Former Chief Executive Officer
Henkel KGaA

Senior Management Team

Corning F. Painter

Chief Executive Officer

Lorin Crenshaw

Chief Financial Officer

Christian Eggert

Senior Vice President and
General Counsel

Sandra Niewiem

Senior Vice President
Global Specialty Carbon Black
and EMEA Region

Carlos J. Quinones

Senior Vice President,
Global Operations

Pedro Riveros

Senior Vice President
Global Rubber Carbon Black
and Americas Region

Transfer Agent

The transfer agent and registrar for Orion Engineered Carbons' common shares is American Stock Transfer and Trust Company LLC. The transfer agent's address is 6201 15th Avenue, Brooklyn, New York 11219.

Stock Information

Orion Engineered Carbons is listed on the New York Stock Exchange under the ticker symbol OEC.

Independent Auditors

Orion Engineered Carbons' auditors are Ernst and Young LLP.

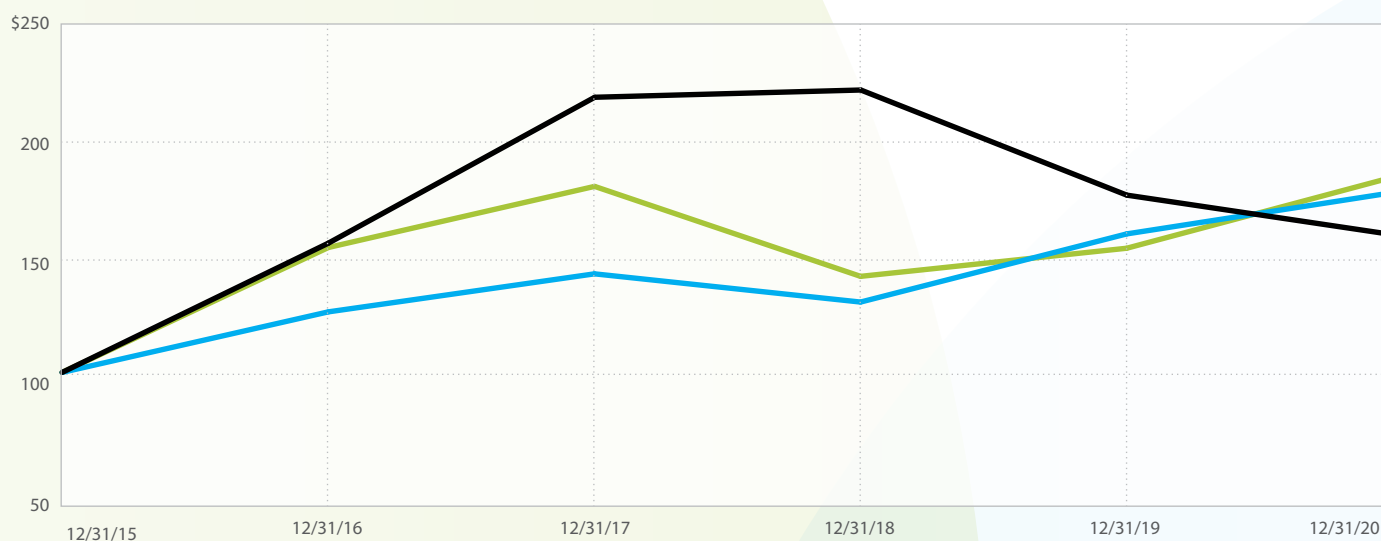
Annual Meeting

The Annual Meeting of Stockholders will be held on Thursday June 24, 2021 at 2:00 PM Central European Time at the office of the company located: 6, Route de Trèves, L-2633 Senningerberg (Municipality of Niederanven), Grand Duchy of Luxembourg.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN

Among Orion Engineered Carbons S.A., the S&P Small Cap 600 Index, and S&P Small Cap Chemicals index

— Orion Engineered Carbons S.A.
— S&P Small Cap 600 Index
— S&P Small Cap Chemicals index





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