

STEEL DYNAMICS INC
Form 10-K
February 27, 2019

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

FORM 10-K

6

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
FOR THE FISCAL YEAR ENDED DECEMBER 31, 2018
TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF
1934

Commission File Number 0-21719

Steel Dynamics, Inc.

(Exact name of registrant as specified in its charter)

Indiana	35-1929476
(State or other jurisdiction of incorporation or organization)	(IRS Employer Identification No.)
7575 West Jefferson Blvd, Fort Wayne, IN	46804
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: (260) 969-3500

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

Title of each class	Name of each exchange on which registered
Common Stock, \$.0025 par value	Nasdaq Global Select Stock Market

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

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

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

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

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

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Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

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 Accelerated file Non-accelerated filer Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for

complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

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

The aggregate market value of the voting stock held by non-affiliates of the registrant computed by reference to the price at which the common equity was last sold as of June 30, 2018, was approximately \$7.7 billion. Registrant has no non-voting shares. For purposes of this calculation, shares of common stock held by directors, officers and 5% stockholders known to the registrant have been deemed to be owned by affiliates, but this should not be construed as an admission that any such person possesses the power, direct or indirect, to direct or cause the direction of the management or policies of the registrant or that such person is controlled by or under common control with the registrant.

As of February 21, 2019, Registrant had outstanding 224,105,246 shares of common stock.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of registrant's definitive proxy statement referenced in Part III, Items 10 through 14 of this report, to be filed prior to May 1, 2019, are incorporated herein by reference.

STEEL DYNAMICS, INC.

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PART I

Special Note Regarding Forward Looking Statements

Throughout this report, or in other reports or registration statements filed from time to time with the Securities and Exchange Commission under the Securities Exchange Act of 1934, or under the Securities Act of 1933, as well as in documents we incorporate by reference herein or herefrom, or in press releases or oral statements made by our officers or Regulation FD authorized representatives, we may make statements that express our opinions, expectations, or projections regarding future events or future results, in contrast with statements that reflect present or historical facts. These predictive statements, which we generally precede or accompany by such typical conditional words as “anticipate,” “intend,” “believe,” “estimate,” “plan,” “seek,” “project” or “expect,” or by the words “may,” “will,” or “should,” operate as “forward looking statements” of the kind permitted by the Private Securities Litigation Reform Act of 1995, incorporated in Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Such forward-looking statements involve both known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. That legislation protects such predictive and cautionary statements by creating a “safe harbor” from liability in the event that a particular prediction does not turn out as anticipated.

While we always intend to express our best judgment when we make statements about what we believe will occur in the future, and although we base these statements on assumptions that we believe to be reasonable when made, these forward looking statements are not a guarantee of performance, and you should not place undue reliance on such statements. Forward-looking statements are subject to many uncertainties and other variable circumstances, many of which are outside of our control, that could cause our actual results and experience to differ materially from those we thought would occur.

The following listing represents some, but not necessarily all, of the factors that may cause actual results to differ from those we may have anticipated or predicted:

- United States or foreign trade policy affecting the amount of, or tariffs on, foreign steel imported in the United States, or adverse or less than satisfactory outcomes of pending and future trade cases alleging unlawful practices in connection with steel imports;
- increased price competition brought about by global steelmaking overcapacity;
- increased price and other forms of competition from other steel producers, scrap processors and alternative materials;
- margin compression resulting from falling selling prices with no offsetting reduction in raw material costs, or our inability to pass increases in costs of raw materials and supplies, if any, onto our customers;
- the adverse impact of periods of slower than anticipated economic growth or the risk of a recession, resulting in a general decrease of demand for our products;
- the weakening of demand for steel products within the non-residential and residential construction, automotive, manufacturing, appliance, pipe and tube, and other steel-consuming industries;
- conditions affecting steel or recycled metals consumption;
- cyclical changes in market supply and demand for steel and recycled metals;
- changes in the availability or cost of raw materials, such as recycled metals, iron substitute materials, including pig iron and iron concentrate, zinc, graphite electrodes, or other raw materials or supplies, which we use in our production processes;
 - periodic fluctuations in the availability and cost of electricity, natural gas, or other utilities;
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the impact of, or changes in, environmental law or in the application of other legal or regulatory requirements upon our production processes or costs of production or upon those of our suppliers or customers, including actions by government agencies, such as the United States Environmental Protection Agency or related state agencies, upon our receipt of pending or future environmentally related construction or operating permits;

- the impact of United States government or various other governmental agencies introducing laws or regulatory changes in response to the subject of climate change and greenhouse gas emissions, including the introduction of carbon emissions limitations or trading mechanisms;

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- increased cybersecurity threats and vulnerabilities and increased global information technology security requirements, and a rise in sophisticated cybercrimes that pose a risk to the security and functionality of our systems and information networks and to the confidentiality, availability, and integrity of sensitive data, including intellectual property, proprietary information, financial information, customer, supplier and business partner information, and personally identifiable information;
- changes in our business strategies or development plans which we have adopted or may adopt, and any difficulty or inability to timely, cost efficiently and successfully consummate, implement, integrate or operate any planned or potential construction or other projects, acquisitions, joint ventures or strategic alliances;
- the impact of impairment charges;
- private or governmental liability claims or litigation, or the impact of any adverse litigation costs or outcome of any litigation on the adequacy of our reserves or the availability or adequacy of our insurance coverage;
- the occurrence of unanticipated equipment failures and plant outages;
- costs to idle facilities, idled facility carrying costs, or increased costs to resume production at idled facilities; and
- uncertainties involving new products or new technologies.

We also refer you to and urge you to carefully read the section entitled Risk Factors at Item 1A of this report to better understand some of the principal risks and uncertainties inherent in our businesses or in owning our securities, as well as the section entitled Management Discussion and Analysis of Financial Condition and Results of Operations at Item 7. You should also review the notes to consolidated financial statements under headings in Note 1. Use of Estimates and in Note 9. Commitments and Contingencies.

Any forward-looking statements which we make in this report or in any of the documents that are incorporated by reference herein or herefrom speak only as of the date of such statement, and we undertake no ongoing obligation to update such statements. Comparisons of results between current and any prior periods are not intended to express any future trends or indications of future performance, unless expressed as such, and should only be viewed as historical data.

ITEM 1. BUSINESS

Our Company

Steel Dynamics, Inc. is one of the largest domestic steel producers and metal recyclers in the United States based on current estimated steelmaking and coating capacity of approximately 13 million tons and actual metals recycling volumes. The primary source of revenues is from the manufacture and sale of steel products, processing and sale of recycled ferrous and nonferrous metals, and fabrication and sale of steel joists and deck products.

We believe our strategic focus to create value for shareholders, customers, employees and communities is differentiated through our six Core Operating and Leadership Principals:

- Safety – We are focused on providing a safe working environment for all employees. Our goal is to achieve zero injuries – no accidents, no lost workdays, and no injuries.
- Enhancing Customer Relationships and Commitment – Our customers are critical to our success and are important business partners. We strive to be a preferred partner by providing outstanding products and solutions, exceeding both current expectations and future needs, and deliver greater value.
- Sustaining Superior Operating Culture – Our entrepreneurial culture fosters a team of energetic, positive, driven and innovative individuals by utilizing open communication and performance-based compensation aligned to our strategic focus. This results in our safe, low-cost, and highly efficient operations, which drive “best-in-class” operating and financial performance.
- Strategic Growth, Intentional Margin Expansion and Consistency Through the Cycle – We are focused on growth opportunities that provide sustainable, higher volume and profitability throughout both strong and weak market environments, with diversification in end markets and product offerings. We are squarely focused toward continued strategic growth both organic and transactional.
- Driving Innovation – Through employee creativity and ingenuity, we drive innovation to improve safety, quality and productivity, implementing innovative technologies and processes in order to perform at the highest level and consistently achieve excellence in all that we do.
- Financial Strength and Flexibility – We have a disciplined focus on remaining a low-cost, highly efficient, customer-centric company generating best-in-class financial and operating performance that provides strong cash flow generation to support our current operations and continued growth.

Competitive Strengths / Business Strategies

We believe our financial strength and flexibility, coupled with our competitive advantages of maintaining a low, highly variable cost structure, producing a diversified value-added product offering, controlling a secure supply of

recycled ferrous metals, fostering an entity-wide entrepreneurial culture and having an experienced senior management team and work force, positions us well to continue to strengthen our leadership position and execute our growth strategy.

One of the Lowest Cost Steel Producers in the United States; State-of-the-Art Facilities / Allowing for Low Production Costs

We are focused on maintaining one of the lowest operating cost structures in the North American steel industry. Our low operating costs are primarily a result of our efficient plant designs and operations, our high productivity rate, low ongoing maintenance cost requirements and strategic locations near our customers and sources of our primary raw material, ferrous scrap.

We will continue to develop innovative ways to use our equipment, enhance our productivity and explore new technologies to further improve our unit costs of production at each of our facilities. As one of the lowest cost producers in each of our three primary operating segments, we are able to better manage through all cycles, and to consistently maximize our profitability. We continuously seek to maximize the variability of our cost structure and to reduce per unit and fixed costs. Our incentive compensation plans at all employee levels are based on both divisional and consolidated company performance. Performance-based incentive compensation is designed to reward high productivity and efficient use of physical resources and capital employed. Additionally, leveraging our existing facilities through capital effective organic growth and diversified product offerings allows us to maximize utilization.

Secure Supply of High Quality Just-in-Time Ferrous Raw Materials

We maintain a secure supply of ferrous raw material resources through the benefit of our metals recycling operations and Iron Dynamics (IDI). Ferrous materials represent the single largest raw material component of our steel operations' manufacturing costs, at approximately 60% of such costs. During 2018, 2017, and 2016, OmniSource, our metals recycling operations, provided our steel operations with 39%, 38%, and 40%, respectively, of its ferrous scrap requirements. This represented 65%, 63%, and 61% of OmniSource's total ferrous scrap shipments during 2018, 2017, and 2016, respectively. During 2018, 2017, and 2016, our steel operations consumed 10.9 million, 10.3 million, and 9.9 million tons,

respectively, of metallic materials, of which iron units, other than scrap, represented approximately 14% in 2018 and 2016, and 13% in 2017. IDI supplies 100% of its production to the Butler Flat Roll Division, representing 64%, 72%, and 65% of their iron units other than scrap in 2018, 2017, and 2016, respectively, through the transfer of liquid pig iron and hot briquetted iron, which are higher quality, energy-saving ferrous raw materials. We believe our metals recycling operations and IDI provide us with a high quality, cost effective, and secure raw material platform for effective working capital management.

Diversified Product Mix / Expanded Product Offerings

We are one of the most diversified steel companies in the United States, with very broad product offerings. We currently offer a wide range of steel products (more specifically enumerated in the Steel Operations Products and Sales by End Market discussion later in this section), including:

Steel Operations:

Sheet Products. Hot roll, cold roll and coated steel, including a wide variety of specialty products, such as light gauge hot roll, galvanized, galvaneal, Galvalume®, Galfan®, and painted products.

Long Products. Structural steel beams, pilings, and standard and premium grade rail; engineered special-bar-quality of an expanding range of sizes and chemistries; various merchant-bar-quality products including rounds, angles, flats, reinforcing bar, and channels and specialty steel sections.

Steel Finishing. Turning, polishing, straightening, chamfering, threading, precision saw-cutting, cold draw and heat treating of bar products; and cutting to length, additional straightening, hole punching, shot blasting, welding and coating of beams, channels and specialty steel sections.

Metals Recycling Operations. An array of both ferrous and nonferrous scrap recycling, scrap management, transportation, and brokerage products and services.

Steel Fabrication Operations. Steel joists, girders and steel deck, including specialty deck.

This diversified portfolio of products enables us to access a broad range of end-user markets, serve a wide customer base, and help mitigate our market exposure to any one product or end-user market, resulting in increased utilization. In addition, our value-added product offerings help to balance our exposure to commodity grade products supplied by other domestic steel, and foreign manufacturers.

We will continue to seek additional opportunities and to collaborate with our customers to anticipate their future needs by further expanding our range of products and offerings, which may allow our customers the ability to more effectively and efficiently navigate their supply chain. One such opportunity is our recently completed and commissioned \$82 million investment at our Structural and Rail Division to utilize excess melting and casting capability to produce up to 240,000 tons of various sizes of reinforcing bar including custom cut-to-length, smooth bar, and coiled. Another such opportunity is the addition of a new \$140 million galvanizing line at our Columbus Flat Roll Division which will increase annual coating capability by 400,000 tons with operations expected to begin mid-year 2020.

Strategic Geographic Locations / Enter New Geographic Markets

The majority of our steelmaking facilities are in locations near sources of scrap materials and near our customer base, allowing us to realize freight savings for inbound scrap as well as for outbound steel products destined for our customers. This also allows us to provide consistent on-time delivery to our customer base with relatively short lead times, further solidifying our customer relationships. Our coated sheet steel products are also available through our locations in Pittsburgh, Pennsylvania, Jeffersonville, Indiana and Columbus, Mississippi, due to river access. Recycled ferrous scrap and iron units represent the most significant component of our cost of steel manufacturing. We believe that our metals recycling facilities are in the regions that account for a majority of the total ferrous scrap produced in the United States. Our steel fabrication operations have a national footprint allowing us to serve the entire joist and deck domestic market and national accounts.

We plan to continue to seek and enter new markets in strategic geographic locations that offer attractive growth opportunities within our areas of expertise as evidenced by our recent public announcement of the anticipated construction of a new state-of-the-art electric-arc-furnace flat roll steel mill. The company currently expects to locate the facility in the southwestern United States to cost effectively serve not only the southern United States, but also the Mexican flat roll steel market. This facility is anticipated to have an annual production capacity of approximately 3.0 million tons with the capability to produce the latest generation of advanced high strength steel products. The project will include value-added finishing lines, including a galvanizing line with an annual coating capacity of 450,000 tons, and a paint line with an annual coating capacity of 250,000 tons. The product offering is anticipated to include various flat roll steel products, including hot roll, cold roll, galvanized, Galvalume® and painted steel, primarily serving the energy, automotive, construction, and appliance sectors.

Experienced Management Team and Unique Corporate Culture / Foster Entrepreneurial Culture

Our senior management team is highly experienced and has a proven track record in the steel, metals recycling, and steel fabrication industries. Management’s objectives are closely aligned with our stockholders through meaningful stock ownership positions and performance based compensation programs that are correlated to the company’s profitability and operational performance in relationship to its steel manufacturing peers. Our entrepreneurial culture resonates throughout each of our operating segments. We emphasize decentralized decision making, with corporate risk oversight, and have established incentive compensation programs specifically designed to reward employee teams for their efforts toward identifying innovative ways to enhance productivity, improve profitability, and control costs.

We intend to continue to foster our entrepreneurial culture and emphasize decentralized operational decision making and responsibility, while continuing to maintain appropriate corporate policy and risk oversight. We reward teamwork, innovation, and operating efficiency, and will also continue to focus on maintaining the effectiveness of our incentive based bonus plans that are designed to maximize overall productivity and align the interests of our management and employees with our stockholders.

Experienced Executive Management Team

Name	Age	Position
Mark D. Millett	59	President and Chief Executive Officer
Theresa E. Wagler	48	Executive Vice President and Chief Financial Officer
Russ B. Rinn	61	Executive Vice President, Metals Recycling
Chris A. Graham	54	Senior Vice President, Long Products Steel Group
Glenn A. Pushis	53	Senior Vice President, Special Projects
Barry T. Schneider	50	Senior Vice President, Flat Roll Steel Group
Miguel Alvarez	51	Senior Vice President, Southwest U.S and Mexico

Mark D. Millett, a co-founder of our company and director since inception, has been our President and Chief Executive Officer since January 2012. Prior to that, Mr. Millett has held various positions, including President and Chief Operating Officer, Executive Vice President of Metals Recycling and Ferrous Resources, President and Chief Operating Officer of OmniSource Corporation, and Executive Vice President and Chief Operating Officer for Flat Rolled Steels and Ferrous Resources. Mr. Millett was responsible for the design, construction, and start-up operation of our Butler, Indiana flat roll, melting and casting operations. Mr. Millett, prior to his co-founding of Steel Dynamics, served from 1981 to 1985 as chief metallurgist for Nucor Corporation’s Darlington, South Carolina, division, charged with developing the world’s first commercially viable thin-slab-casting process as the manager of that project at Nucor’s Hazelett facility. In 1987, Mr. Millett was given the responsibility by Nucor for the design, construction, staffing, and operation of the melting and casting facility at Nucor’s world’s first thin-slab casting facility at Crawfordsville, Indiana. Mr. Millett holds a bachelor’s degree in metallurgy from the University of Surrey in England. Mr. Millett was named Steelmaker of the Year in 2014 by the Association of Iron and Steel Technology.

Theresa E. Wagler is our Executive Vice President and Chief Financial Officer since May 2007. Ms. Wagler joined the Steel Dynamics corporate finance team in 1998, and has held various finance and accounting positions, including Chief Accounting Officer and Vice President and Corporate Controller, and was appointed to her current position in May 2007. She is responsible for and oversees accounting, risk management, taxation, treasury, and information technology functions, as well as, financial planning and analysis, investor relations, and corporate communications. Prior to joining Steel Dynamics, Ms. Wagler served as Assistant Corporate Controller for Fort Wayne National Bank and as a certified public accountant with Ernst & Young LLP. She graduated cum laude from Taylor University with a bachelor's degree in accounting and systems analysis. In addition, Ms. Wagler serves as a director and chair of the audit committee of CF Industries Holdings, Inc., a public company, and also serves as a director and audit committee chair for Trine University.

Russell B. Rinn is our Executive Vice President for Metals Recycling since July 2011. Mr. Rinn is responsible for OmniSource's ferrous and nonferrous metals recycling operations in the eastern half of the United States, as well as sourcing, marketing, trading, and logistics activities spanning the nation. OmniSource procures metal scrap, processes it, and markets these recycled metals to external customers and supplies ferrous scrap to the company's steel mills. Prior to joining Steel Dynamics, Mr. Rinn was an Executive Vice President of Commercial Metals Company (CMC), a Texas-based mini-mill steel company. He has more than 30 years of experience in the steel and metals recycling industries. Mr. Rinn is a graduate of the Executive Program of the Stanford University Graduate School of Business and of the Management Development Program at the University of Michigan's Business School. He holds a bachelor's degree in Finance, Marketing and Business Administration from Texas Lutheran University.

Chris A. Graham is our Senior Vice President, Long Products Steel Group, effective February 1, 2019. In this role, Mr. Graham is responsible for the company's four long product steel mills, which combined have over 4 million tons of annual steelmaking capacity, producing specialized engineered bars, structural steel, railroad rail, merchant and reinforcing steel bars, and other specialty steels. Since 2016, Mr. Graham served as Senior Vice President, Downstream Manufacturing and President of New Millennium Building Systems, responsible for the company's steel fabrication and downstream manufacturing operations. Prior to that, Mr. Graham served as a Vice President of Steel Dynamics and the President of New Millennium Building Systems fabrication operations. Mr. Graham was part of the team that constructed the company's first steel mill in 1994. He held various leadership positions within the company's steel group prior to moving into the fabrication operations in 2007. He was

responsible for four operating fabrication plants from 2007 to 2010, at which point he also became the team leader responsible for overseeing the restructuring and integration of three acquired fabrication facilities, and in 2014 was made responsible for the integration of the Columbus Flat Roll Division. Mr. Graham is a graduate of Harvard Business School Advanced Management Program and earned a bachelor's degree in business management from Western Governors University and an MBA from the University of Saint Francis.

Glenn A. Pushis is our Senior Vice President, Special Projects, effective February 1, 2019. In this new position, Mr. Pushis is responsible for the successful design and construction of the company's planned new flat roll steel mill developed to serve the Southwestern U.S. and Mexico. He has extensive experience in this capacity and has been instrumental in numerous construction projects for Steel Dynamics since its foundation. Since 2016, Mr. Pushis served as Senior Vice President, Long Products Steel Group, responsible for the company's four long product steel mills. Prior to that, Mr. Pushis served as Vice President overseeing the company's Butler Flat Roll Division and six flat roll coating facilities. He has been with Steel Dynamics since 1994, holding various operational and leadership roles, and he was part of the team that constructed the company's first steel mill in 1994 - Butler Flat Roll Steel Mill. He held various leadership positions within the company's steel group, including the positions of General Manager for the Engineered Bar Products Division from 2003 to 2007 and more recently, the Butler Flat Roll Division from 2007 to 2014. Mr. Pushis earned a bachelor's degree in mechanical engineering from Purdue University and his MBA from Indiana University.

Barry T. Schneider is our Senior Vice President, Flat Roll Steel Group since March 2016. Since 2014, Mr. Schneider served as a Vice President overseeing the company's Engineered Bar Products and Roanoke Bar steel divisions. Mr. Schneider is responsible for the company's two flat roll steel mills and numerous flat roll coating lines, including the recently acquired Heartland Flat Roll Division, which together have approximately 8.4 million tons of annual capacity, producing hot roll, cold roll and coated steel products, including a wide variety of specialty products, such as light gauge hot roll, galvanized and painted products. Mr. Schneider was also part of the team that constructed the company's first steel mill in 1994, serving in several engineering and operational roles in the melt shop during the company's first five years of operations. He was the manager of the Butler Flat Roll Division's hot strip mill and later the cold rolling and coating facilities from 2000 to 2007. Mr. Schneider then held the position of General Manager for the Engineered Bar Products Division from 2007 to 2014. Mr. Schneider earned a bachelor's degree in mechanical engineering and a Master of Science in engineering management from Rose-Hulman Institute of Technology.

Miguel Alvarez joined the company as our Senior Vice President, Southwest U.S. and Mexico on February 1, 2019. In this new position Mr. Alvarez is responsible for the comprehensive business development and partnerships in the region, encompassing both steel and recycled metals. Prior to joining Steel Dynamics, since 2000 Mr. Alvarez served in leadership positions at BlueScope, a global engineered steel solutions provider and flat roll steel producer, focused on the global building and construction sectors. Mr. Alvarez's responsibilities included leading BlueScope's North American metal buildings business, with manufacturing facilities in the U.S. and Mexico, as President of BlueScope Buildings North America, since 2017. From 2010 to 2017, he served as the President of North Star BlueScope Steel, responsible for BlueScope's only North American electric-arc-furnace flat roll steel mill. Mr. Alvarez earned a bachelor's degree in industrial engineering and a Masters of Business Administration from the Technological Institute of Superior Studies in Monterrey, Mexico.

Industry Segments

We have three reporting segments: steel operations, metals recycling operations, and steel fabrication operations. Refer to Notes 1 and 13 in the notes to consolidated financial statements in Part II, Item 8 of this Form 10-K for additional segment information.

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Steel Operations Segment

Steel operations consist of our six electric arc furnace steel mills, producing steel from ferrous scrap and scrap substitutes, utilizing continuous casting, automated rolling mills and several downstream steel coating and bar processing lines, and IDI, our liquid pig iron production facility, that supplies solely the Butler Flat Roll Division. Our steel operations sell directly to end-users, steel fabricators, and service centers. These products are used in numerous industry sectors, including the construction, automotive, manufacturing, transportation, heavy and agriculture equipment, and pipe and tube (including OCTG) markets. Our steel operations accounted for 75% of our consolidated net sales during 2018 and 72% in 2017 and 2016. We are predominantly a domestic steel company, with only 5% of our revenues generated from exported sales during 2018, and 2017, and 4% in 2016.

Our steel operations consist primarily of steelmaking and coating operations. We have approximately 8.4 million tons of flat roll steel shipping capacity, comprised of 6.4 million tons of flat roll steel production capacity at our Butler and Columbus Flat Roll divisions and an additional 2.0 million tons of flat roll steel processing capacity at our Techs and Heartland divisions. We also have annual flat roll galvanizing capability of 3.8 million tons and painting capability of 750,000 tons.

We have approximately 4.6 million tons of long product steel shipping capacity, as follows (tons in thousands):

Structural and Rail Division	2,200,000
Engineered Bar Products Division	950,000
Roanoke Bar Division	720,000
Steel of West Virginia	555,000
Vulcan Threaded Products Division	125,000

Steelmaking capacities represent manufacturing capabilities based on steel mill configuration and related employee support. These capacities do not represent expected volumes in a given year. In addition, estimates of steel mill capacity are highly dependent on the specific product mix manufactured. Each of our steel mills can and do roll many different types and sizes of products; therefore, our capacity estimates assume a typical product mix.

The following chart summarizes our steel operations primary products and the estimated percentage of tons sold by end market:

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SHEET STEEL PRODUCTS

Our sheet steel products, consisting of hot roll, cold roll and coated steel products are produced by our Butler and Columbus Flat Roll Divisions, and our numerous downstream coating lines, including The Techs and Heartland Flat Roll Division (acquired June 29, 2018). Our sheet steel operations represented 70%, 71%, and 70% of steel operations net sales in 2018, 2017, and 2016, respectively. We produced 7.5 million, 7.1 million, and 6.9 million tons of sheet steel at these facilities in 2018, 2017, and 2016, respectively.

IDI produces liquid pig iron and hot briquetted iron (HBI) that serves as a substitute for a portion of the metallic raw material mix that goes directly into our Butler Flat Roll Division electric arc furnaces to produce steel. IDI's primary focus is to maximize liquid pig iron production, due to the inherent economic benefits achieved at the steel mill when the material is used in the steelmaking process, such as reduced energy cost, reduced materials cost, and quicker melting cycles. During 2018, 2017, and 2016, respectively, IDI produced 262,000, 259,000 and 255,000 metric tons, of which 96%, 90% and 98%, respectively, was liquid pig iron. We have used, and plan to continue to use, all of the facility's output internally.

The following chart summarizes the types of sheet steel products sold by sales dollars, during the respective years:

Customers. Steel processors and service centers typically act as intermediaries between primary sheet steel producers and the many end-user manufacturers that require further processing of hot roll coils. The additional processing performed by the intermediate steel processors and service centers include pickling, galvanizing, cutting to length, slitting to size, leveling, blanking, shape correcting, edge rolling, shearing and stamping. We believe that our intermediate steel processor and service center customers will remain an integral part of our customer base. The Columbus Flat Roll Division allows us to capitalize on the industrial markets in the Southern United States and Mexico, as well as further expand our customer base in painted, and line and other pipe products. Galvanized flat roll products produced by our Butler and Columbus Flat Roll Divisions are similar and are sold to a similar customer base. The Techs and Heartland Flat Roll Division specialize in the galvanizing of specific types of flat roll steels in primarily non-automotive applications, servicing a variety of customers in the heating, ventilation and air conditioning (HVAC), construction, agriculture and consumer goods markets. Our sheet steel operations also provide a substantial portion of the sheet steel utilized in our steel fabrication operations.

The following chart summarizes the types of customers who purchased our sheet steel products, by sales dollars, during the respective years:

LONG PRODUCTS

Our Structural and Rail Division produces a variety of parallel flange sections such as wide flange beams, American Standard Beams, manufactured housing beams, and H Piling, and channel sections for the construction, transportation and industrial machinery markets, as well as flat bars and large unequal leg angles used in construction markets. We also produce standard strength carbon, intermediate alloy hardness, and premium grade rails in 40 to 320 feet length for the railroad industry. Our state-of-the-art heat treating system allows us to produce high quality premium rail, which has been certified by all Class I railroads. In addition, our rail-welding facility has the ability to weld (Continuous Welded Rail) in lengths up to 1,600 feet, which offers substantial savings to the railroads both in terms of initial capital cost and through reduced maintenance. We recently completed and commissioned our expansion to utilize existing excess melting and casting capability to produce up to 240,000 tons of various sizes of reinforcing bar including custom cut-to-length, smooth bar, and coiled. We also utilize our excess melting capacity to supply our Engineered Bar Products Division with pull-through volume of billets to utilize its excess rolling capacity.

Our Engineered Bar Products Division produces a broad array of engineered special-bar-quality (SBQ), merchant-bar-quality (MBQ), rounded-cornered squares, and smaller-diameter engineered round bars. We have a bar finishing facility at this mill, which provides various downstream finishing operations for our SBQ steel bars. Processing operations include turning, polishing, straightening, chamfering, precision saw-cutting and heat-treating capabilities. In addition, non-destructive testing services are available, including eddy current, flux leakage and ultrasonic inspection. Vulcan Threaded Products, Inc. (Vulcan), produces threaded rod product, and cold drawn and heat treated bar, creating strategic pull-through demand of special-bar-quality products provided from our Engineered Bar Products Division.

Our Roanoke Bar Division primarily produces merchant bar products, including channels, angles, flats, merchant rounds, and reinforcing bar. In 2018, we completed our rolling line expansion project to utilize existing excess melting and casting capability to produce up to 200,000 tons of reinforcing bar, with multi-strand slitting and finishing capabilities.

Steel of West Virginia primarily sells beams, channels, specialty steel sections and flats, and frequently performs fabrication and finishing operations on its products, such as cutting to length, additional straightening, hole punching, shot blasting, welding, galvanizing, and coating. Through this additional finishing, we create custom finished products that are generally placed directly into our customers' assembly operations.

We produced the following long steel products at these facilities (tons):

	2018	2017	2016
Structural and Rail Division	1,637,574	1,353,699	1,298,724
Rail production (included above)	288,194	250,921	238,410
Engineered Bar Products Division	824,428	698,951	480,243
Roanoke Bar Division	575,078	473,097	498,480
Steel of West Virginia	307,013	285,397	289,114

Customers. The principal customers for our structural steel products are steel service centers, steel fabricators and various manufacturers. Service centers, though not the ultimate end-user, provide valuable mill distribution functions to the fabricators and manufacturers, including small quantity sales, repackaging, cutting, preliminary processing and warehousing. The steel rail marketplace in the United States, Canada and Mexico is specialized and defined, with eight Class I railroads and a large distribution network.

SBQ products are principally consumed by cold finishers, forgers, intermediate processors, OEM manufacturers, steel service centers, and distributors, as well as pull through volume to Vulcan. Our MBQ products are sold primarily to steel service centers, as well as reinforcing bar distributors, joist producers, and OEMs. Some of the excess steel billet production at the Roanoke Bar Division is sold to mills without sufficient melting capacities, including our Steel of West Virginia facility. Our steel fabrication operations also purchase angles from Roanoke Bar Division. Steel of West Virginia's customers are primarily OEMs producing truck trailers, industrial lift trucks, merchant products, guardrail posts, manufactured housing, mining, and off-highway construction equipment. Steel of West Virginia's flexible manufacturing capabilities enable us to meet demand for a variety of custom-ordered and designed products. Many of these products are produced in small quantities for low volume end-uses resulting in a wide variety of customers, the largest of which are in the truck trailer and industrial lift truck industries.

Steel Competition. The markets in which we conduct business are highly competitive with an abundance of competition in the carbon steel industry from North American and foreign integrated and mini-mill steelmaking and processing operations. We compete in numerous industry sections, most significantly tied to the construction, automotive, and other manufacturing sectors. In many applications within these industry sections, steel competes with other materials, such as aluminum, cement, composites, plastics, carbon fiber, glass and wood. Some of our products are commodities, subject to their own cyclical fluctuations in supply and demand. However, we are focused on providing a broader range of diversified value-added products that de-emphasize commodity steel. The primary competitive influences on products we sell are price, quality and value-added services.

Global steelmaking capacity exceeds global consumption of steel products. Such excess capacity sometimes results in steel manufacturers in certain countries exporting steel at prices that are lower than prevailing domestic prices, and sometimes at or below their cost to produce. Excessive imports of steel into the United States in 2017, intensified price competition on the domestic steel industry which negatively affected our ability to increase our selling prices and realize higher margins and profitability. While the 2018 introduction of tariffs pursuant to Section 232 of the Trade Expansion Act of 1962, as amended, has decreased the volume of steel products imports in the United States, domestic steel and steel products prices remain negatively impacted by excessive imports of steel and steel products into the United States.

Metals Recycling Operations Segment

The metals recycling operations consists solely of OmniSource and includes both ferrous and nonferrous scrap metal processing, transportation, marketing, and brokerage services strategically located primarily in close proximity to our steel mills and other end-user scrap consumers throughout the eastern half of the United States. In addition, OmniSource designs, installs, and manages customized scrap management programs for industrial manufacturing companies at hundreds of locations throughout North America. Our metals recycling operations accounted for 13% of our consolidated net sales during 2018 and 15% in 2017 and 2016. Our steel mills utilize a significant portion of the ferrous scrap processed through OmniSource as raw material in our steelmaking operations, and the remainder is sold to other consumers. This strategic symbiotic relationship with our own steelmaking operations provides valuable pull-through demand to OmniSource's ferrous scrap operations. In 2018, 2017, and 2016, OmniSource provided our steel operations with 39%, 38%, and 40%, respectively, of its ferrous scrap requirements.

We shipped the following from our metals recycling operations:

	2018	2017	2016
Ferrous metal total (gross tons)	5,123,553	4,952,973	5,070,380
Shipments to our steel mills	3,346,135	3,108,858	3,112,616
Percent of total to our steel mills	65%	63%	61%
Nonferrous metals (thousands of pounds)	1,131,412	1,086,799	1,103,505

We sell various grades of processed ferrous scrap primarily to steel mills and foundries. Ferrous scrap metal is the primary raw material for electric arc furnaces, such as our steel mills. In addition, we sell various grades of nonferrous metals such as copper, brass, aluminum and stainless steel, to aluminum, steel and ingot manufacturers, brass and bronze ingot makers, copper refineries and mills, smelters, specialty mills, alloy manufacturers, and other consumers.

We purchase processed and unprocessed ferrous and nonferrous scrap metals, in a variety of forms for our metals recycling facilities.

Ferrous scrap comes from two primary sources:

- Manufacturers and industrial plants, metal fabrication plants, machine shops and factories, which generate ferrous scrap referred to as prompt or industrial scrap, and
- Scrap dealers, retail individuals, auto wreckers, demolition firms and others who provide steel and iron scrap, referred to as obsolete scrap. Obsolete scrap includes scrap recycled from items such as end-of-life automobiles, appliances, railroad cars and railroad track materials, agricultural machinery and demolition scrap from obsolete structures, containers and machines and represents a significant source of scrap generation.

Nonferrous scrap comes from three primary sources:

- Manufacturers and other nonferrous scrap sources, which generate or sell scrap aluminum, copper, stainless steel, and other nonferrous metals,
- Producers of items such as electric wire, telecommunication service providers, aerospace, defense and recycling companies that generate nonferrous scrap consisting primarily of copper wire, aluminum beverage cans, and various other metals and alloys, and
- Retail individuals who sell material directly to our facilities, which they collect from a variety of sources.

We do not purchase a significant amount of scrap metal from a single source or from a limited number of major sources. Market demand and the composition, quality, size, weight, and location of the materials are the primary factors that determine prices.

Products. Our metals recycling operations primarily involve the purchase, processing, and resale of ferrous and nonferrous scrap metals into reusable forms and grades. We process an array of ferrous products through a variety of methods, including sorting, shredding, shearing, cutting, torching, baling, briquetting, and breaking. Our major ferrous products include heavy melting steel, busheling, bundled scrap, shredded scrap and other scrap metal products, such as steel turnings and cast iron. These products vary in properties or attributes related to cleanness, size of individual pieces, and residual alloys. The necessary characteristics of the ferrous products are determined by the specific needs and requirements of the consumer and affect the individual product's relative value. We process numerous grades of nonferrous products, including aluminum, brass, copper, stainless steel, and other nonferrous metals. Additionally, we provide transportation logistics (truck, rail, and river barge), marketing, brokerage, and scrap management services, providing competitive price and cost advantages to our suppliers and customers.

Customers. We sell various grades of processed ferrous scrap to end-users, such as electric arc furnace steel mills, integrated steelmakers, foundries, secondary smelters, and metal brokers, who aggregate materials for other large users. Ferrous scrap metal is the primary raw material for electric arc furnaces, such as our steel mills. Most of our ferrous scrap customers purchase processed scrap through negotiated spot sales contracts which establish a quantity purchase for the month. The price we charge for ferrous scrap depends upon market demand and pricing, transportation costs, as well as the quality and grade of the scrap. We sell various grades of processed nonferrous scrap to end-users such as aluminum sheet and ingot manufacturers, brass and bronze ingot makers, copper refineries, mills, smelters, specialty steelmakers, alloy manufacturers, wire and cable

producers, utilities, and telephone networks. The price we charge for nonferrous scrap also depends upon market demand and pricing, transportation costs, as well as the quality and grade of the scrap.

Competition. Scrap is a global commodity influenced by conditions in a number of industrialized and emerging markets throughout Asia, Europe and North America. The markets for scrap metals are highly competitive, both in the purchase of raw or unprocessed scrap, and the sale of processed scrap. With regard to the purchase of unprocessed scrap, we compete with numerous independent recyclers, as well as smaller scrap companies engaged only in collecting obsolete scrap. In many cases, we also purchase unprocessed scrap metal from smaller scrap dealers and other processors. Successful procurement of materials is determined primarily by the price offered by the purchaser for the raw scrap and the proximity of our processing facility to the source of the raw scrap. Both ferrous and nonferrous scrap sells as a commodity in both domestic and international markets, which are affected, sometimes significantly, by relative economic conditions, currency fluctuations, and the availability and cost of transportation. Competition for sales of processed scrap is based primarily on the price, quality, and location of the scrap metals, as well as the level of service provided in terms of reliability and timing of delivery.

We also face potential competition for sales of processed scrap from other producers of steel products, such as electric arc furnace and integrated steel mills, some of which like us are also vertically integrated in the scrap metals recycling business. In addition, other steel mills may compete with us in attempting to secure scrap supply through direct purchasing from our scrap suppliers. Scrap metal processors also face competition from substitutes for prepared ferrous scrap, such as pre-reduced iron pellets, HBI, pig iron, direct reduced iron (DRI), and other forms of processed iron. The availability and relative prices of substitutes for ferrous scrap could result in a decreased demand for processed ferrous scrap and could result in lower prices and/or lower demand for our scrap products.

The industry is highly fragmented with many smaller, regional, national and global companies, which have multiple locations in areas in which OmniSource also operates. No single scrap metals recycler has a significant market share in the domestic market.

Steel Fabrication Operations Segment

Our steel fabrication operations include seven New Millennium Building Systems plants that primarily serve the non-residential construction industry throughout the United States. We have a national operating footprint that allows us to serve the entire domestic construction market, as well as national accounts, such as large retail chains.

Steel fabrication operations accounted for 8% of our consolidated net sales during 2018, and 9% in 2017 and 2016. We sold 642,000, 627,000, and 563,000 tons of joist and deck products during 2018, 2017, and 2016, respectively. Our steel operations supply a substantial portion, approximately 58%, 51% and 59% in 2018, 2017, and 2016, respectively, of the steel utilized in our steel fabrication operations, providing strategic pull-through demand.

Products. Our steel fabrication operations produce steel building components, including steel joists, girders, trusses (six locations), and steel deck (five locations). Our joist products include bowstring, arched, scissor, double pitched and single pitched joists. Our deck products include a full range of steel decking: roof, form, composite floor, specialty architectural, floor systems, and bridge deck.

Customers and Markets. Our primary steel fabrication operations customers are non-residential steel fabricators, such as, metal building companies, general construction contractors, developers, brokers and governmental entities. Our customers are located throughout the United States, including national accounts. The steel joist and deck market in the United States was approximately 2.1 million, 2.0 million tons, and 1.9 million tons in 2018, 2017, and 2016, respectively, based on trade association estimates. Based on this information, our steel fabrication operations continue to maintain approximately one third of the total steel joist and deck market. We believe we are well positioned with our national footprint as the non-residential construction market continues to expand, and we have available capacity that can be deployed as needed.

Competition. We compete with other North American joist and steel deck producers primarily on the basis of price, quality, customer service, and proximity to the customer. Our national footprint allows us to service the entire domestic non-residential construction market, as well as national accounts such as large retail chains, and certain specialty deck customers.

Other Information

Sources, Availability, and Cost of Steel and Other Operations' Raw Materials

Scrap Metals. The principal raw material of our steel operations is scrap metal derived from, among other sources “home scrap”, generated internally at steel mills themselves; industrial scrap, generated as a by-product of manufacturing; and obsolete scrap recycled from end-of-life automobiles, appliances, railroad cars and railroad track materials, agricultural machinery and demolition scrap from obsolete structures, containers and machines.

Ferrous scrap typically comprises more than 80% of the metallic melt mix in electric arc furnace steelmaking, in contrast to integrated mill steelmaking, where the proportion of scrap has traditionally been approximately 25% to 35%. Depending upon the scrap substitute material that may be available from time to time, and the relative cost of such material, the percentage of scrap used in our steelmaking operations could be increased or reduced in our metallic melt mix.

Many variables can impact ferrous scrap prices, all of which reflect the pushes and pulls of the supply demand equation. These factors include the level of domestic steel production (high quality low-residual scrap is a by-product of steel manufacturing activity), the level of exports of scrap from the United States, and the amount of obsolete scrap production. In addition, domestic ferrous scrap prices generally have a strong correlation and spread to global pig iron pricing. Generally, as domestic steel demand increases, so does scrap demand and resulting scrap prices. The reverse is also normally, but not always, true with scrap prices following steel prices downward when supply exceeds demand. Excess sheet steel imports declined during 2016 with duties levied pursuant to the trade case rulings from the United States International Trade Commission, resulting in increased domestic steel mill utilization, resulting in improved scrap pricing. Steel imports rose during 2017, mostly related to structural and pre-fabricated structural long products, but also cold roll and coated sheet steel, maintaining pressure on steel selling prices in those markets. However, scrap prices continued to climb in 2017 due to strong domestic steel mill utilization and level scrap exports. This trend continued in 2018 with stronger domestic steel mill utilization and demand. When scrap prices greatly accelerate, this can challenge one of the principal elements of an electric arc furnace based steel mill's traditional lower cost structure—the cost of its metallic raw material.

The following table provides pricing per gross ton from American Metal Market (AMM) and Ryan's Notes (Pig Iron) estimates for ferrous materials used in steel production:

Iron Units. In addition to scrap, DRI, HBI, pig iron, and iron nuggets are used in our electric arc furnace steel mill production. During 2018, 2017, and 2016, we consumed 10.9 million, 10.3 million and 9.9 million tons, respectively, of metallic materials in our steelmaking furnaces, of which, iron units other than scrap, represented approximately 14%, 13% and 14% of the tons, respectively. Of these iron substitute units consumed, our IDI operation supplies 100% of its production to the Butler Flat Roll Division mill, representing 64%, 72% and 65% of their iron units in 2018, 2017, and 2016, respectively.

Energy Resources

Electricity. Electricity is a significant input required in the electric arc furnaces in our steelmaking operations, representing between 5% and 7% of steel production costs of goods sold in 2018, 2017 and 2016. We have entered into fixed price electricity contracts for the Butler Flat Roll Division, Columbus Flat Roll Division, Roanoke Bar Division and Steel of West Virginia, while our Engineered Bar Products Division has a combination of fixed pricing and market pricing for the various components of the electrical services (demand charge, energy charge, riders, etc.). Our Structural and Rail Division purchases electricity at current market prices and through fixed price forward contracts.

Patents and Trademarks

We currently do not own any material patents or patent applications for technologies that are in use in our production processes. We have the following major registered trademarks, as follows:

- the mark “SDI” and a chevron alone;
- the mark “SDI” and a chevron and “Steel Dynamics, Inc.” to the right of the chevron;
- the mark “SDI” and a chevron and “Steel Dynamics” to the right of the chevron;
- the mark “OmniSource Corporation” with the circle logo design;
- the slogan “The Best in Metals Recycling”;
- the mark “The Techs”; and
- the mark “New Millennium Building Systems, LLC.”

Research and Development

Our research and development activities have consisted of efforts to expand, develop and improve our products and operating processes, and our efforts to develop and improve alternative ironmaking technologies through IDI. Most of these research and development efforts have been conducted in-house by our employees.

Environmental Matters

Our operations are subject to substantial and evolving local, state, and federal environmental, health and safety laws and regulations concerning, among other things, emissions to the air, discharges to surface and ground water and to sewer systems, and the generation, handling, storage, transportation, treatment and disposal of solid and hazardous wastes and secondary materials. Our operations are dependent upon permits regulating discharges into the environment or the use and handling of by-products in order to operate our facilities. We dedicate considerable resources aimed at achieving compliance with federal, state and local laws concerning the environment. While we do not currently believe that our future compliance efforts with such provisions will have a material adverse effect on our results of operations, cash flows or financial condition, this is subject to change in the ever-evolving regulatory environment in which we operate.

Since the interpretation and enforcement of environmental laws and regulations that may be enacted from time to time are subject to changing social or political pressures, our environmental capital expenditures and costs for

environmental compliance may increase in the future. In addition, due to the possibility of unanticipated regulatory or other developments, the amount and timing of future environmental expenditures may vary substantially from those currently anticipated. The cost of current and future environmental compliance may also place United States steel producers at a competitive disadvantage with respect to foreign steel producers, which may not be required to undertake equivalent costs in their operations.

Pursuant to the Resource Conservation and Recovery Act, or RCRA, which governs the treatment, handling and disposal of solid and hazardous wastes, the United States Environmental Protection Agency, or United States EPA, and authorized state or local environmental agencies may conduct inspections to identify alleged violations or areas where there may have been releases of solid or hazardous constituents into the environment and require the facilities to take corrective action to address any such releases. RCRA also allows citizens to bring certain suits against regulated facilities for potential damages and cleanup. Our steelmaking and certain other facilities generate wastes subject to RCRA. Our operations produce various by-products, some of which, for example electric arc furnace or EAF dust, are often categorized as hazardous waste, requiring special handling for disposal or for the recovery of metallics. We collect such by-products in pollution control equipment, such as baghouses, and either recycle or appropriately dispose of these by-products. While we cannot predict the future actions of the regulators or other interested parties, the potential exists for required corrective action at these facilities, the costs of which could be substantial.

Under the Comprehensive Environmental Response, Compensation and Liability Act, known as “CERCLA” or “Superfund,” the United States EPA, state agencies and, in some instances, private parties have the authority to impose joint and several liability for the remediation of contaminated properties upon generators of waste, current and former site owners and operators, transporters and other potentially responsible parties, regardless of fault or the legality of the original disposal activity. Many states have statutes and regulatory authorities similar to CERCLA that can also apply. We have a number of material handling agreements with various contractors to properly dispose of or recycle our EAF dust and certain other by-products of our operations. However, we cannot assure that, even if there has been no fault by us, we may not still be cited as a waste generator by reason of an environmental cleanup at a site to which our by-products were transported.

The Clean Water Act and similar state and local laws apply to aspects of our operations and impose regulatory restrictions related to the discharge of wastewater, storm water and dredged or fill material. The United States EPA, state agencies and, in certain instances, private parties have the ability to bring suit alleging violations and seeking penalties and damages. The Clean Water Act’s provisions can require new or expanded water treatment investments to be made and can limit or even prohibit certain current or planned activities at our operations.

The Clean Air Act and analogous state and local laws require many of our facilities to obtain and maintain air permits in order to operate. Air permits can impose new or expanded obligations to limit or prevent current or future emissions and to add costly pollution control equipment. Enforcement for alleged violations can be brought by the United States EPA, state agencies, and in certain instances private parties, and can result in substantial penalties and injunctive relief.

In addition, there are a number of other environmental, health and safety laws and regulations that apply to our facilities and may affect our operations. By way of example and not of limitation, certain portions of the federal Toxic Substances Control Act, Oil Pollution Act, Safe Drinking Water Act and Emergency Planning and Community Right-to-Know Act, as well as state and local laws and regulations implemented by the regulatory agencies, apply to aspects of our facilities’ operations. In some instances, we may also be subject to foreign governments’ regulations and international treaties and laws. Many of these laws allow both the governments and citizens to bring certain suits against regulated facilities for alleged environmental violations. Finally, our operations could be subject to certain toxic tort suits brought by citizens or other third parties alleging causes of action such as nuisance, negligence, trespass, infliction of emotional distress, or other claims alleging personal injury or property damage.

Employees

Our work force consisted of approximately 8,200 full time employees at December 31, 2018, of which approximately 9% were represented by collective bargaining agreements.

Available Information

Our internet website address is www.steeldynamics.com. We make available on our internet website, under “Investors,” free of charge, as soon as reasonably practicable after such materials are electronically filed with, or furnished to, the Securities and Exchange Commission, our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports, as well as press releases, ownership reports pursuant to Section 16(a) of the Securities Act of 1933, our Code of Ethics for Principal Executive Officers and Senior Financial Officers, our Code of Business Conduct and Ethics, and any amendments thereto or waivers thereof, as well as our

Audit, Compensation and Nominating and Corporate Governance Committee Charters. We do not intend to incorporate the contents of our or any other website into this report.

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ITEM 1A. RISK FACTORS

Many factors could have an effect on our business, results of operations, financial condition and cash flows. We are subject to various risks resulting from changing economic, environmental, political, industry, business and financial conditions. The factors described below represent our principal risks.

Risks Related to our Industry

Global steelmaking overcapacity and imports of steel into the United States have adversely affected, and may continue to adversely affect, United States steel prices, which may adversely affect our business, results of operations, financial condition and cash flows.

Global steelmaking capacity currently exceeds global consumption of steel products, which adversely affects United States and global steel prices. Such excess capacity sometimes results in steel manufacturers in certain countries exporting steel and steel products, including pre-fabricated long-product steel, at prices that are lower than prevailing domestic prices, and sometimes at or below their cost of production. Excessive imports of steel and steel products, including pre-fabricated steel, into the United States, such as in recent years, have exerted, and may continue to exert, downward pressure on United States steel and steel products prices, which adversely affects our business, results of operations, financial condition and cash flows. Furthermore, anticipated additional domestic steel capacity could increase this global overcapacity. This, in turn, may also adversely impact domestic demand for ferrous scrap and our ferrous metallics margins. United States steel producers compete with many foreign producers, including those in China, Vietnam and other Asian and European countries. Competition from foreign producers is typically strong and is periodically exacerbated by weakening of the economies of certain foreign steelmaking countries. Additionally, low iron ore prices, resulting in disruption of the scrap price correlation to iron ore, leads to reduced global costs to produce steel, further depressing steel import prices. A higher volume of steel exports to the United States tend to occur at depressed prices when steel producing countries experience periods of economic difficulty, decreased demand for steel products or excess capacity. The global steelmaking overcapacity is exacerbated by Chinese steel production capacity that far exceeds that country's demand and has made China a major global exporter of steel, resulting in weakened global steel pricing than otherwise would be expected. While the introduction of tariffs pursuant to Section 232 of the Trade Expansion Act of 1962, as amended ("Section 232"), has decreased the volume of steel and steel products imports in the United States, domestic steel and steel products prices remain negatively impacted by excessive imports of steel and steel products into the United States. Should the Section 232 tariffs expire or be relaxed or repealed or should it be circumvented by importers of steel and steel products, downward pressure may be exerted on United States steel and steel products prices, which adversely affects our business, results of operations, financial condition and cash flows

In addition, we believe the downward pressure on, and periodically depressed levels of, United States steel prices in recent years have been further accentuated through imports of steel involving dumping and subsidy abuses by foreign steel producers. Some foreign steel producers are owned, controlled or subsidized by foreign governments. As a result, decisions by these producers with respect to their production, sales and pricing are sometimes influenced to a greater degree by political and economic policy considerations than by prevailing market conditions, realities of the marketplace or consideration of profit or loss. However, while some tariffs, duties and quotas, including those imposed under Section 232, have been put into effect for steel and certain steel products imported from a number of countries that have been found to have been unfairly pricing steel imports to the United States, some foreign steel subject to these duties, tariffs and quotas circumvent the penalties by processing in or transporting through a foreign country not subject to the penalties. Additionally, there is no assurance that the Section 232 tariffs or other already imposed tariffs, duties and quotas will remain in place or that new ones, even if justified, will be levied and even when imposed many of these are only short-lived. If such tariffs, duties or quotas expire or if others are further relaxed or repealed, or if relatively higher United States steel prices make it attractive for foreign steelmakers to export their steel

products to the United States, despite the presence of tariffs, duties or quotas, the resurgence of substantial imports of foreign steel could create downward pressure on United States steel prices.

Our industry, as well as the industries of many of our customers and suppliers upon whom we are dependent, is affected by domestic and global economic factors including periods of slower than anticipated economic growth and the risk of a new recession.

Our financial results are substantially dependent not only upon overall economic conditions in the United States and globally, including Europe and in Asia, but also as they may affect one or more of the industries upon which we depend for the sale of our products. Global or domestic actions, including political actions, trade policies or restrictions, such as the replacement of the North American Free Trade Agreement with the United States-Mexico-Canada Agreement and the changed provisions thereunder, or changes in tax laws, could result in changing economic conditions in the United States and globally, or changes in our pre-tax and post-tax financial performance. Additionally, periods of slower than anticipated economic growth could reduce customer confidence and adversely affect demand for our products and further adversely affect our business, results of operations, financial condition and cash flows. Metals industries have historically been vulnerable to significant declines in consumption and product pricing during periods of economic downturn or continued uncertainty, including the pace of domestic non-residential construction activity.

Our business is also dependent upon certain industries, such as construction, automotive, manufacturing, transportation, heavy and agriculture equipment, and pipe and tube (including OCTG) markets, and these industries are also cyclical in nature. Therefore, these industries may experience their own fluctuations in demand for our products based on such things as economic conditions, raw material and energy costs, consumer demand and infrastructure funding decisions by governments. Many of these factors are beyond our control. As a result of volatility in our industry or in the industries we serve, we may have difficulty increasing or maintaining our level of sales or profitability. If our industry or the industries we serve were to suffer a downturn, then we may experience an adverse effect on our business, results of operations, financial condition and cash flows.

A prospective decline in consumer and business confidence and spending, which is often coupled with reductions in the availability of credit or increased cost of credit, as well as volatility in the capital and credit markets, could adversely affect the business and economic environment in which we operate and the profitability of our business. We are also exposed to risks associated with the creditworthiness of our suppliers and customers. If the availability of credit to fund or support the continuation and expansion of our customers' business operations is curtailed or if the cost of that credit is increased the resulting inability of our customers or of their customers to either access credit or absorb the increased cost of that credit could adversely affect our business by reducing our sales or by increasing our exposure to losses from uncollectible customer accounts. A disruption of the credit markets could also result in financial instability of some of our suppliers and customers. The consequences of such adverse effects could include the interruption of production at the facilities of our customers, the reduction, delay or cancellation of customer orders, delays or interruptions of the supply of raw materials we purchase, and bankruptcy of customers, suppliers or other creditors. Any of these events may adversely affect our business, results of operations, financial condition and cash flows.

Our level of production and our sales and earnings are subject to significant fluctuations as a result of the cyclical nature of the steel industry and some of the industries we serve.

The steel manufacturing business is cyclical in nature, and the selling price of the steel we make may fluctuate significantly due to many factors beyond our control. Furthermore, a number of our products are commodities, subject to their own cyclical fluctuations in supply and demand in both metal consuming and metal generating industries, including the construction and manufacturing industries. The timing, magnitude and duration of these cycles and the resulting price fluctuations are difficult to predict. The sale of our manufactured steel products is directly affected by demand for our products in other cyclical industries, such as construction, automotive, manufacturing, transportation, heavy and agriculture equipment, and pipe and tube (including OCTG) markets. Economic difficulties, stagnant or slow global economies, supply/demand imbalances and currency fluctuations in the United States or globally could decrease the demand for our products or increase the amount of imports of steel into the United States, which could decrease our sales, margins and profitability.

The scrap metal recycling industry has historically been, and is expected to remain, highly cyclical and this could have a material adverse effect on our metals recycling operations' results.

Scrap metal prices remain subject to fluctuation, and operating results within the metals recycling industry in general have historically been, and are expected to remain, highly cyclical in nature. Similarly, but not necessarily paralleling the price fluctuations in the steel business, the purchase prices for automobile bodies and various other grades of obsolete and industrial scrap, as well as the selling prices for processed and recycled scrap metals we utilize in our own manufacturing process, or which we resell to others through our metals recycling operations, are also volatile. During periods of excess domestic supply or increased imports, scrap metal prices may become or remain depressed and adversely affect the sales, profitability and margins of our scrap business. As a metals recycler, we may attempt to respond to changing recycled metal selling prices by adjusting the scrap metal purchase prices we pay to others, but our ability to do this may be limited by competitive or other factors during periods of low scrap prices, when inbound scrap flow may slow considerably, as scrap generators hold on to their scrap in hopes of getting higher prices later. As such, a prolonged period of low scrap prices could reduce our ability to obtain, process, and sell recycled materials, and this could adversely affect our metals recycling operations' results. Conversely, periodic increased foreign demand for scrap can result in an outflow of available domestic scrap, as well as resulting higher scrap prices domestically that cannot always be passed on to domestic scrap consumers, thereby further reducing available domestic scrap flows and scrap margins, all of which could adversely affect our sales and profitability of our metals recycling operations. Additionally, during periods of high demand and resulting higher scrap prices, ferrous scrap consumers may seek and develop ferrous scrap alternatives, including pig iron and DRI. The availability and pricing of these scrap alternatives in the domestic market may have a longer-term impact on scrap pricing, particularly in prime grades, which could

adversely affect our sales, profitability and margins.

Volatility and major fluctuations in scrap metal, pig iron, zinc and graphite electrode prices and availability, and our potential inability to pass higher costs on to our customers may constrain operating levels and reduce profit margins.

Steel producers require large amounts of raw materials, including scrap metal and scrap substitute products such as pig iron, pelletized iron and other supplies such as zinc, graphite electrodes and ferroalloys. Our principal raw material is scrap metal derived primarily from industrial scrap and end-of-life automobiles, appliances, railroad cars, railroad track materials, agricultural machinery and demolition scrap from obsolete structures, containers and machines. The prices for scrap are subject to market forces largely beyond our control, including demand by United States and international steel producers, freight costs and speculation. The prices for scrap have varied significantly in the past, may vary significantly in the future and do not necessarily fluctuate in tandem with the price of steel. Moreover, some of our integrated steel producer competitors are not as dependent as we are on scrap as a part of their raw material melt mix, which, during periods of high scrap costs relative to the cost of blast furnace iron used by the integrated producers, give them a raw material cost advantage over mini-mills. While our vertical integration into the metals recycling business, through our OmniSource operations, and into the ironmaking business, through our IDI facility, are expected to enable us to continue being a cost-effective supplier to our own steelmaking operations, for some of our metallics requirements, we will still need to rely on other metallics and raw material suppliers, as well as upon general industry supply conditions for the balance of our needs.

Purchase prices for auto bodies, scrap metal and scrap substitute products such as pig iron that we consume and selling prices for scrap and recycled metals that we sell to third parties are volatile and beyond our control. While OmniSource attempts to respond to changing recycled metal selling prices through adjustments to its metal purchase prices, its ability to do so is limited by competitive and other market factors. Changing prices could potentially impact the volume of scrap metal available to us and the volume and realized margins of processed metals we sell.

The availability and prices of raw materials may also be negatively affected by new or existing laws and regulations, allocation by suppliers, interruptions in production, accidents or natural disasters, changes in exchange rates, global price fluctuations, the availability and cost of transportation, and competing uses for raw materials. As a major producer of galvanized steel products, we purchase and consume a large amount of zinc, which is currently at historically high prices, and may have an effect on our profit margins. Due to its use in other industries, demand for the primary raw material (needle coke) used in the production of graphite electrodes has expanded in recent years, leading to increased price, and possible difficulty in securing and timely obtaining graphite electrodes. Graphite electrodes are a critical raw material in our steelmaking. Any inability to secure a consistent and timely supply of our raw materials, and supplies, including graphite electrodes, could have an adverse effect on our business, financial condition, results of operations or prospects.

If prices for ferrous metallics increase by a greater margin than corresponding price increases for the sale of our steel products, we may not be able to recoup such cost increases from increases in the selling prices of steel products. Conversely, depressed prices for ferrous scrap may constrain its supply, which may adversely affect our metals recycling operations and also the availability of certain grades of scrap for our steelmaking operations. Additionally, our inability to pass on all or any substantial part of any cost increases during periods of rapidly rising scrap prices, through scrap or other surcharges, or to provide for our customers' needs because of the potential unavailability of key raw materials or other inputs, may result in production slowdowns or curtailments or may otherwise have a material adverse effect on our business, financial condition, results of operations or prospects.

The cost and availability of electricity and natural gas are also subject to volatile market conditions.

Steel producers like us consume large amounts of energy to melt ferrous scrap in electric arc furnaces and reheat steel for rolling into finished products. We rely on third parties for the supply of energy resources we consume in our steelmaking activities. The prices for and availability of electricity, natural gas, oil and other energy resources are also subject to volatile market conditions, often affected by weather conditions as well as political, environmental and economic factors beyond our control. As consumers of electricity and natural gas, we must have dependable delivery in order to operate. Accordingly, we are at risk in the event of an energy disruption, including power outages or power unavailability. Prolonged blackouts or brownouts or disruptions caused by natural disasters or by political or environmental considerations would substantially disrupt our production. Since a significant portion of our finished steel products are delivered by truck, unforeseen fluctuations in the price of fuel would also have a negative impact on our costs or on the costs of many of our customers. In addition, changes in certain environmental regulations, including those that may impose output limitations or higher costs associated with climate change or greenhouse gas emissions, could substantially increase the cost of manufacturing and raw materials to us and other steel producers.

Fluctuations in the value of the United States dollar relative to other currencies may adversely affect our business.

Fluctuations in the value of the dollar can be expected to affect our business. A strong United States dollar, such as recently experienced, makes imported products less expensive, potentially resulting in more imports of steel products into the United States by our foreign competitors, while a weak United States dollar may have the opposite impact on imports.

Compliance with and changes in environmental and remediation requirements could result in substantially increased capital requirements and operating costs.

Existing laws or regulations, as currently interpreted or as may be interpreted in the future, as well as future laws or regulations, may have a material adverse effect on our results of operations and financial condition.

We are subject to numerous local, state, federal and international statutory and regulatory environmental requirements relating to, among other things:

- the generation, storage, treatment, handling and disposal of solid and hazardous waste and secondary materials;
- the discharge of materials into the air, including periodic changes to the National Ambient Air Quality Standards and to emission standards;
 - the management, treatment and discharge of wastewater and storm water;
- the use and treatment of groundwater;
- the remediation of soil and groundwater contamination;
- climate change legislation or regulation;
- the need for and the ability to timely obtain air, water or other environmental permits;
- the timely reporting of certain chemical usage, content, storage and releases;
- the remediation and reclamation of land used for iron mining;
- natural resource protections; and
- the protection of our employees' health and safety.

Compliance with environmental laws and regulations, which affect our steelmaking, metals recycling, ironmaking, and copper and aluminum production operations, is a significant factor in our business. We are required to obtain and comply with environmental permits and licenses, and failure to obtain or renew or the violation of any permit or license could result in substantial fines and penalties, capital expenditures, operational changes, suspension of operations and/or the closure of a subject facility. Similarly, delays, increased costs and/or the imposition of onerous conditions to the securing or renewal of permits could have a material adverse effect on these operations.

Uncertainty regarding adequate pollution control levels, testing and sampling procedures, and new pollution control technology are factors that may increase our future compliance expenditures. We are unable to predict the ultimate cost of future compliance with environmental requirements or their effect on our operations. Although we work hard to be in substantial compliance with all applicable laws and regulations, legal requirements frequently change and are subject to interpretation such that regulatory agencies may bring enforcement actions for alleged noncompliance. Private parties might also bring claims against us under citizen suit provisions and/or for property damage or personal injury allegedly resulting from our operations. New laws, regulations and changing interpretations by regulatory authorities, together with uncertainty regarding the application of existing requirements are among the factors that may increase our future expenditures to comply with environmental requirements. The cost of complying with existing laws or regulations as currently interpreted or reinterpreted in the future, or with future laws or regulations, may have a material adverse effect on our results of operations and financial condition.

Our manufacturing and metals recycling operations produce significant amounts of by-products, some of which are handled as solid or hazardous waste or as hazardous secondary materials. For example, our steel mills generate electric arc furnace (EAF) dust, which the United States Environmental Protection Agency (United States EPA) and other regulatory authorities classify as hazardous waste and regulate accordingly unless recycled in an exempt manner.

In addition, the primary feed materials for the shredders operated by our metals recycling operations are automobile bodies. A portion of the feed materials consist of unrecyclable material known as shredder residue. If laws or regulations or the interpretation of the laws or regulations change with regard to EAF dust or shredder residue or other by-products created by our operations, we may incur significant additional expenditures.

Federal and state environmental laws enable the United States EPA, state agencies and certain private parties to recover from owners, operators, generators and transporters the cost of investigation and cleanup of sites at which wastes or hazardous substances were disposed. In connection with these laws, we may be required to clean up contamination discovered at our sites including contamination that may have been caused by former owners or operators of the sites, to conduct additional cleanup at sites that have already had some cleanup performed, and/or to perform cleanup with regard to sites formerly used in connection with our operations.

In addition, we may be required to pay for, or to pay a portion of, the costs of cleanup at sites to which we sent materials for disposal or recycling, notwithstanding that the original disposal or recycling activity may have complied with all regulatory requirements then in effect. Under certain laws, a party can be held jointly and severally liable for all of the cleanup costs associated with a disposal site. In practice, a liable party often splits the costs of cleanup with other potentially responsible parties. We have received notices from the United States EPA, state agencies and third parties that we have been identified as potentially responsible for the costs of investigating and cleaning up a number of disposal sites. In most cases, many other parties are also named as potentially responsible parties and also contribute to payment of those costs.

Because cleanup liability can in some cases be imposed retroactively on activities that occurred many years ago, and because the United States EPA and state agencies are still discovering sites that pose a threat to public health or the environment, we can provide no assurance that we will not become liable for significant costs associated with investigation and remediation of cleanup sites.

Increased regulation associated with climate change and greenhouse gas (GHG) emissions could impose significant costs on both our steelmaking and metals recycling operations.

The United States government or various governmental agencies may introduce regulatory changes in response to the potential impacts of climate change. International treaties or agreements may also result in increasing regulation of GHG emissions, including the introduction of carbon emissions limitations or trading mechanisms. Any such

regulation regarding climate change and GHG emissions, could impose significant costs on our operations and on the operations of our customers and suppliers, including increased energy, capital equipment, emissions controls, environmental monitoring and reporting and other costs in order to comply with current or future laws or regulations concerning climate change and GHG emissions. Any adopted future climate change and GHG regulations could negatively impact our ability, and that of our customers and suppliers, to compete with companies situated in areas not subject to or not complying with such limitations.

From a medium and long-term perspective, we are likely to see an increase in costs relating to our assets that emit significant amounts of GHGs as a result of these regulatory initiatives, which may impact our operations directly or through our suppliers or customers. Until the timing, scope and extent of any future regulation becomes known, we cannot predict the effect on our financial condition, operating performance and ability to compete.

Risks Related to the Business

Our senior secured credit facility contains, and any future financing agreements may contain, restrictive covenants that may limit our flexibility.

Restrictions and covenants in our existing debt agreements, including our senior secured credit facility, and any future financing agreements, may impair our ability to finance future operations or capital needs or to engage in other business activities. Specifically, these agreements may limit or restrict our ability to:

- incur additional indebtedness;
- pay dividends or make distributions with respect to our capital stock, in excess of certain amounts;
- repurchase or redeem capital stock;
- make some investments;

- create liens on property;
- make some capital expenditures;
- enter into transactions with affiliates or related persons;
- issue or sell stock of certain subsidiaries;
- sell or transfer assets; and
- enter into mergers, acquisitions or consolidations, or some joint ventures.

A breach of any of the restrictions or covenants could cause a default under our senior secured credit facility, our senior notes, or our other debt. A significant portion of our indebtedness may then become immediately due and payable.

Under our senior secured credit facility, we are required to maintain certain financial covenants tied to our leverage and profitability. Our ability to meet such covenants or other restrictions can be affected by events beyond our control. If a default were to occur, the lenders could elect to declare all amounts then outstanding to be immediately due and payable and terminate all commitments to extend further credit. If we are unable to repay those outstanding amounts, the lenders could proceed against the collateral granted to them to secure such indebtedness. We have pledged substantially all of our receivables and inventories and all shares of capital stock or other equity interests of our wholly-owned subsidiaries and intercompany debt held by us as collateral for our senior secured credit facility.

We may face significant price and other forms of competition from other steel producers, scrap processors and alternative materials, which could have a material adverse effect on our business, financial condition, results of operation or prospects.

The global markets in which steel companies and scrap processors conduct business are highly competitive and became even more so due to consolidations in the steel and scrap industries. Additionally, in many applications, steel competes with other materials, such as aluminum, cement, composites, plastics, carbon fiber, glass and wood. Increased use of alternative materials for any reason, including as a response to regulations such as the Corporate Average Fuel Economy (CAFÉ) requirements, could decrease demand for steel or force other steel producers into new products or markets that compete more directly with us, and combined with increased competition could cause us to lose market share, increase expenditures or reduce pricing, any one of which could have a material adverse effect on our business, financial condition, results of operations or prospects. The global steel industry suffers from overcapacity, and that excess capacity intensifies price competition for some of our products. A decrease in the global demand for steel scrap, due to market or other conditions, including trade restrictions such as China's refusal to accept steel scrap imports, generally causes a decrease in the price of scrap metals. A decrease in price could result in some scrap generators exiting the marketplace which could further decrease the availability of scrap. A shortage in the availability of scrap could have a material adverse effect on both our steelmaking and our metals recycling operations and thus on our business, financial condition, results of operations or prospects.

We are subject to significant risks relating to changes in commodity prices and may not be able to effectively protect against these risks.

We are exposed to commodity price risk during periods where we hold scrap metal inventory for processing or resale. Prices of commodities, including scrap, can be volatile due to numerous factors beyond our control. In an increasing price environment for raw materials, competitive conditions may limit our ability to pass on price increases to our consumers. In a decreasing price environment for processed scrap, we may not have the ability to fully recoup the cost of raw materials that we procure, process, and sell to our customers. In addition, new entrants into the market areas we serve could result in higher purchase prices for raw materials and lower margins from our scrap. Our sales and inventory position may be vulnerable to adverse changes in commodity prices, which could materially adversely impact our operating and financial performance. Thus, we engage in some hedging of certain commodities in futures markets.

Availability of an adequate source of supply is required for our metals recycling operations.

We procure our scrap inventory from numerous sources. These suppliers generally are not bound by long-term contracts and generally have no obligation to sell recyclable metal to us. In periods of low industry scrap prices, scrap suppliers may elect to hold recyclable metal to wait for higher prices or intentionally slow their metal collection activities. If a substantial number of scrap suppliers cease selling recyclable metal to us, we may be unable to recycle metal at desired levels and our results of operations and financial condition could be materially adversely affected. In addition, a slowdown of industrial production in the United States reduces the supply of industrial grades of metal to the metal recycling industry, resulting in our having less recyclable metal available to process and sell.

We are subject to cybersecurity threats and may face risks to the security of our sensitive data and information technology, which may adversely affect our business, results of operations, financial condition and cash flows.

Increased global cybersecurity and information technology security requirements, vulnerabilities and threats and a rise in sophisticated and targeted cybercrime pose a risk to the security and functionality of our systems and information networks, and to the confidentiality, availability and integrity of sensitive data, including intellectual property, proprietary information, financial information, customer, supplier and business partner information, and personally identifiable information, any of which could have materially adverse economic consequences. Additionally, such cybersecurity vulnerabilities or attacks could result in an interruption of the functionality of our automated and electronically controlled manufacturing operating systems, which, if compromised, could cease, threaten, delay or slow down our ability to melt, roll or otherwise process steel or any of our other products for the duration of such interruption, which could have materially adverse economic consequences and which may adversely affect our business, results of operations, financial condition and cash flows. Our customers, suppliers and vendors may also store certain of our sensitive information on their information technology systems, which if breached or attacked, could likewise expose our sensitive information and have materially adverse economic consequences.

Although we believe we have adopted procedures and controls to adequately protect our sensitive data, networks and information and operating technology and systems, there can be no assurance that a system or network failure, or cybersecurity breach or attack, will be prevented, whether due to attacks by cyber criminals or due to employee, contractor or other error or malfeasance. This could lead to system interruption, production delays or downtimes and operational disruptions, and the disclosure, modification or destruction of sensitive data, which could have an adverse effect on our reputation, customer, supplier and business partner relationships, financial results and results of operations, and could result in litigation or regulatory investigations, actions, fines or penalties, as well as increased cybersecurity monitoring and protection costs. Additionally, as cybersecurity threats continue to evolve and become more sophisticated, we may need to invest additional time, resources and finances to protect the security of our sensitive data, systems and information networks.

We may face risks associated with the implementation of our growth strategy.

Our growth strategy subjects us to various risks. As part of our growth strategy, we may expand existing facilities, enter into new product or process initiatives, acquire or build additional plants, acquire other businesses and assets, enter into joint ventures, or form strategic alliances that we believe will complement our existing business. These expansions and transactions, including our recently announced planned construction of a new electric-arc-furnace flat roll steel mill with an anticipated annual production capacity of approximately 3.0 million tons expected to be located in the southwestern United States, may involve some or all of the following risks:

- the risk of entering product or geographic markets in which we have little experience;
 - the risk of a newly constructed steel mill being completed over budget or not on time;
- the risk of not being able to adequately obtain sufficient labor to efficiently build or staff a new steel mill;
- the risk of expected markets, products, customers and demand for products produced by a new steel mill being lower than expected;
- the difficulty of competing for acquisitions and other growth opportunities with companies having materially greater financial resources than us;
- the inability to realize anticipated synergies or other expected benefits;
- the difficulty of integrating new or acquired operations and personnel into our existing operations;
- the potential disruption of ongoing operations;
- the diversion of financial resources to new operations or acquired businesses;
- the diversion of management attention from other business concerns to new operations or acquired businesses;
- the loss of key employees, customers or suppliers of acquired businesses;
- the potential exposure to unknown liabilities;
- the inability of management to maintain uniform standards, controls, procedures and policies;
- the difficulty of managing the growth of a larger company;
- the risk of becoming involved in labor, commercial, or regulatory disputes or litigation related to the new operations or acquired businesses;
- the risk of becoming more highly leveraged;
- the risk of contractual or operational liability to other venture participants or to third parties as a result of our participation;
- the inability to work efficiently with joint venture or strategic alliance partners; and
- the difficulties of terminating joint ventures or strategic alliances.

These expansions or transactions might be required for us to remain competitive, but we may not be able to complete any such transactions on favorable terms or obtain financing, if necessary. Future expansions and transactions may not improve our competitive position and business prospects as anticipated, and if they do not, our business, financial condition, results of operations or prospects may be adversely affected.

Impairment charges could adversely affect our results of operations.

Occasionally, assumptions that we have made regarding products or businesses we have acquired or sought to develop about the sustainability of markets we sought to exploit, or about industry conditions that underlie our decision making when we elected to capitalize a venture turn out differently than anticipated. In such instances, the fair value of such assets may fall below their carrying value recorded on our balance sheet.

Accordingly, we periodically test goodwill, and long-lived tangible and intangible assets to determine whether their estimated fair value is in fact less than their value recorded on our balance sheet. If we determine that the fair value of any of these assets, from whatever cause, is less than the value recorded on our balance sheet, we are required to incur non-cash asset impairment charges, such as those recorded in past years, that adversely affect our results of operations. There can be no assurances that continued market dynamics or other factors may not result in future impairment charges.

We are subject to litigation and legal compliance risks which could adversely affect our financial condition, results of operations and liquidity.

We are involved from time to time in various routine litigation matters, including administrative proceedings, regulatory proceedings, governmental investigations, environmental matters, and commercial and construction contract disputes, none of which at the present time are expected to have a material impact on our financial conditions, results of operations or liquidity. For additional information regarding legal proceedings please refer to Item 3. Legal Proceedings.

In addition to risks associated with our environmental and other regulatory compliance, our international operations are subject to complex foreign and United States laws and regulations, including the Foreign Corrupt Practices Act, regulations related to import-export controls, the Office of Foreign Assets Control, and other laws and regulations, each of which may increase our cost of doing business and expose us to increased risk.

Unexpected equipment downtime or shutdowns could adversely affect our business, financial condition, results of operations and prospects.

Interruptions in our production capabilities could adversely affect our production costs, products available for sale and earnings during the affected period. In addition to equipment failures, our facilities are also subject to the risk of catastrophic loss due to unanticipated events such as fires, explosions or violent weather conditions. Our manufacturing processes are dependent upon critical pieces of steelmaking equipment, such as our electric arc furnaces, continuous casters and rolling equipment, some of which are controlled by our information technology systems, as well as electrical equipment, such as transformers. This equipment may, on occasion, be out of service as a result of unanticipated failures or other events, including cybersecurity breaches or attacks or system failures. We have experienced plant shutdowns or periods of reduced production as a result of such equipment failures and may in the future experience plant shutdowns or periods of reduced production as a result of such equipment failures, or other events. These disruptions could have an adverse effect on our business, financial condition, results of operations and prospects.

We have incurred, and may incur in the future, costs to idle facilities, idled facility carrying costs, or increased costs to resume production at idled facilities.

Our Minnesota ironmaking operations are indefinitely idled and should we in the future resume production, we would incur increased costs related to preparing for operation, performing any required repairs and maintenance, and training employees. Should economic or market conditions dictate, we may in the future idle additional facilities, which may require us to incur idling and carrying costs related to those facilities, as well as further increased costs should production be resumed at any idled facility, which could have an adverse effect on our financial results and results of operations.

Governmental agencies may refuse to grant or renew some of our licenses and permits.

We must receive licenses and air, water and other permits and approvals from state and local governments to conduct certain of our operations or to build, expand or acquire new facilities, such as our anticipated construction of a new electric arc furnace flat roll steel mill with an anticipated annual production capacity of approximately 3.0 million tons expected to be located in the southwestern United States. Governmental agencies sometimes resist the establishment of certain types of facilities in their communities, including scrap metal collection and processing facilities. There can be no assurance that future approvals, licenses and permits will be granted or that we will be able to maintain and renew the approvals, licenses and permits we currently hold. Failure to do so could have a material adverse effect on our business, financial condition, results of operations and prospects.

ITEM 1B.UNRESOLVED STAFF COMMENTS

None.

ITEM 2.PROPERTIES

The following table describes our significant properties as of December 31, 2018. These properties are owned by us and not subject to any significant encumbrances or are leased by us. We believe these properties are suitable and adequate for our current operations and are appropriately utilized. For additional information regarding our facilities please refer to Item 1. Business.

Operations	Location	Description	Site Acreage Owned	Site Acreage Leased
Steel Operations Segment *				
Butler Flat Roll Division:				
Butler Operations	Butler, IN	Flat Roll Steel Mill and Coating Facility	1,021	—
Jeffersonville Operations	Jeffersonville, IN	Flat Roll Steel Coating Facility	27	10
Iron Dynamics	Butler, IN	Liquid Ironmaking Facility	25	—
Columbus Flat Roll Division	Columbus, MS	Flat Roll Steel Mill and Coating Facility	1,485	14
The Techs	Pittsburgh, PA	Flat Roll Steel Coating Facilities	16	2
Heartland Flat Roll Division	Terre Haute, IN	Flat Roll Steel Rolling and Coating Facility	193	—
Structural and Rail Division	Columbia City, IN	Structural and Rail Steel Mill	700	—
Engineered Bar Division	Pittsboro, IN	Engineered Bar Steel Mill and Finishing Facility	312	—
Vulcan Threaded Products	Pelham, AL	Bar Steel Processing Facility	29	—
Roanoke Bar Division	Roanoke, VA	Merchant Bar Steel Mill	290	—
Steel of West Virginia:				
West Virginia	Huntington, WV	Specialty Shapes Steel Mill and Finishing Facility	49	6
Kentucky	Wurtland, KY	Coating Facility	28	—
Kentucky	Ashland, KY	Finishing Facility	58	—
Tennessee	Memphis, TN	Finishing Facility	4	—
Metals Recycling Operations Segment				
OmniSource:				
Indiana	Multiple Cities	Ferrous and Nonferrous Scrap Processing	459	28
Michigan	Multiple Cities	Ferrous and Nonferrous Scrap Processing	189	—
North Carolina	Multiple Cities	Ferrous and Nonferrous Scrap Processing	346	—
Ohio	Multiple Cities	Ferrous and Nonferrous Scrap Processing	212	21
Oklahoma	Sand Springs, OK	Ferrous Scrap Processing	—	5
Tennessee	Johnson City, TN	Ferrous and Nonferrous Scrap Processing	33	—
Virginia	Multiple Cities	Ferrous and Nonferrous Scrap Processing	196	—
Steel Fabrication Operations Segment				

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New Millennium Building
Systems:

Joist and Deck Operations	Butler, IN	Steel Joist and Deck Fabrication Facility	155	—
Joist Operations	Fallon, NV	Steel Joist Fabrication Facility	53	—
Joist and Deck Operations	Hope, AR	Steel Joist and Deck Fabrication Facility	73	3
Joist Operations	Juarez, MX	Steel Joist Fabrication Facility	17	—
Joist and Deck Operations	Lake City, FL	Steel Joist and Deck Fabrication Facility	75	—
Deck Operations	Memphis, TN	Deck Fabrication Facility	19	—
Joist and Deck Operations	Salem, VA	Steel Joist and Deck Fabrication Facility	63	—
Other Operations				
Corporate Headquarters	Fort Wayne, IN	Office Building (116,000 square feet)	20	—
SDI LaFarga, LLC	New Haven, IN	Copper Wire Rod Facility	35	—
Mesabi Nugget	Hoyt Lakes, MN	Ironmaking Facility – Idled May 2015	**	**
Mesabi Mining	Hoyt Lakes, MN	Iron Ore Concentration and Grinding (Mining not developed) – Idled May 2015	**	**
Mining Resources	Chisholm, MN	Iron Ore Tailings Mining – Idled May 2015	***	***

* For 2018, our steel mill production utilization was 96% of our estimated annual steelmaking capability.

** The Mesabi Nugget and Mesabi Mining properties are located near Hoyt Lakes, Minnesota. The site encompasses 7,981 acres of land owned outright by us (including mineral and surface rights) and land for which we acquired leasehold interests (including 774 acres of mineral and 624 acres of surface rights).

*** Mining Resources has leases for 488 acres of surface rights and 916 acres for iron-bearing materials of iron tailings basins located in Chisholm, Minnesota.

ITEM 3.LEGAL PROCEEDINGS

We are involved in various litigation matters, including administrative proceedings, regulatory proceedings, governmental investigations, environmental matters, and commercial and construction contract disputes, none of which are currently expected to have a material impact on our financial condition, results of operations, or liquidity.

We may also be involved from time to time in various governmental investigations, regulatory proceedings or judicial actions seeking penalties, injunctive relief, and/or remediation under federal, state and local environmental laws and regulations. The United States EPA has conducted such investigations and proceedings involving us, in some instances along with state environmental regulators, under various environmental laws, including RCRA, CERCLA, the Clean Water Act and the Clean Air Act. Some of these matters have resulted in fines or penalties, for which a total of \$451,000 is recorded in our financial statements as of December 31, 2018.

ITEM 4.MINE SAFETY DISCLOSURES

Information required to be furnished pursuant to Item 4 concerning mine safety disclosure matters, if applicable, by Section 1503(a) of the Dodd-Frank Wall Street Reform and Consumer Protection Act and Item 104 of Regulation S-K (17 CFR 229.104), is included in Exhibit 95 to this annual report. There are no mine safety disclosures to report for the year ended December 31, 2018, therefore, no Exhibit 95 is required.

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PART II

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

The information required by Item 5 with respect to securities authorized for issuance under equity compensation plans is set forth in Part III, Item 12 of this Form 10-K. Our common stock trades on The NASDAQ Global Select Stock Market under the symbol STLD.

As of February 21, 2019, we had 224,105,246 shares of common stock outstanding and held beneficially by approximately 24,500 stockholders based on our security position listing. Because many of the shares were held by depositories, brokers and other nominees, the number of registered holders (approximately 1,460) is not representative of the number of beneficial holders.

Issuer Purchases of Equity Securities

We purchased the following equity securities registered by us pursuant to Section 12 of the Exchange Act during the three months ended December 31, 2018.

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Program (1)	Maximum Dollar Value of Shares That May Yet be Purchased Under the Program (in thousands)
Quarter ended December 31, 2018				
October 1-31	3,893,747	\$ 40.45	3,893,747	\$ 571,827
November 1-30	2,297,889	38.08	2,297,889	484,315
December 1 - 31	2,663,127	31.98	2,663,127	399,148
	8,854,763		8,854,763	

(1) On September 4, 2018, we announced that our board of directors had authorized an additional share repurchase program of up to \$750.0 million of our common stock. Our previous share repurchase program, which was authorized in October 2016, was completed in August 2018.

Total Return Graph

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ITEM 6. SELECTED FINANCIAL DATA

The following table sets forth the selected consolidated financial and operating data of Steel Dynamics, Inc. The selected consolidated operating, other financial and balance sheet data, as of and for each of the years in the five-year period ended December 31, 2018, were derived from our audited consolidated financial statements. You should read the following data in conjunction with Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations and our consolidated financial statements and notes appearing elsewhere in this Form 10-K.

You should also read the following information in conjunction with the data in the table on the following page:

- On June 29, 2018, we completed the acquisition of Heartland Steel Processing, LLC (formerly known as Companhia Siderurgica Nacional, LLC) (Heartland), for a total cash purchase price of \$434.0 million. Heartland operations are reflected in our steel operations from the date of acquisition.
- In the fourth quarter of 2017, we recorded a tax benefit related primarily to the impact of the revaluation of the company's deferred tax assets and liabilities as of December 31, 2017, using the lower federal tax rate enacted in the Tax Cuts and Jobs Act of 2017, which increased net income and net income attributable to Steel Dynamics, Inc. by \$180.6 million, and basic and diluted earnings per share by \$0.75.
- In the fourth quarter of 2016, we recorded a non-cash asset impairment charge associated with the company's Minnesota ironmaking operations and certain OmniSource assets, which reduced 2016 operating and pretax income by \$132.8 million, net income by \$89.5 million, net income attributable to Steel Dynamics, Inc. by \$76.4 million, and basic and diluted earnings per share by \$0.31.
- In the fourth quarter of 2015, we recorded a pretax non-cash asset impairment charge related to goodwill, trade name and certain other assets associated with OmniSource, which reduced 2015 operating income by \$428.5 million, and net income and net income attributable to Steel Dynamics, Inc. by \$268.7 million, and basic and diluted earnings per share by \$1.11.
- In the fourth quarter 2014, we recorded a non-cash asset impairment charge associated with the company's Minnesota ironmaking operations, which reduced 2014 operating and pretax income by \$260.0 million, net income by \$179.1 million, net income attributable to Steel Dynamics, Inc. by \$132.6 million, and basic and diluted earnings per share by \$0.55.
- On September 16, 2014, we completed the acquisition of Severstal Columbus, LLC (Columbus Flat Roll Division). Columbus Flat Roll Division operations are reflected in our steel operations from the date of acquisition.

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	Years Ended December 31,				
	2018	2017	2016	2015	2014
	(dollars and shares in thousands, except per share data)				
Operating data:					
Net sales	\$ 11,821,839	\$ 9,538,797	\$ 7,777,109	\$ 7,594,411	\$ 8,755,952
Gross profit	2,322,814	1,582,014	1,334,864	731,718	966,211
Operating income (loss)	1,722,409	1,066,881	727,966	(72,784)	320,320
Asset impairment charges reflected in operating income (loss)	-	-	(132,839)	(428,500)	(260,000)
Net income (loss)	1,255,805	805,796	360,006	(145,170)	91,650
Net income (loss) attributable to Steel Dynamics, Inc.	1,258,379	812,741	382,115	(130,311)	157,024
Basic earnings (loss) per share	\$ 5.38	\$ 3.38	\$ 1.57	\$ (0.54)	\$ 0.68
Weighted average common shares outstanding	233,923	240,132	243,576	242,017	232,547
Diluted earnings (loss) per share	\$ 5.35	\$ 3.36	\$ 1.56	\$ (0.54)	\$ 0.67
Weighted average common shares and share equivalents outstanding	235,193	241,781	245,298	242,017	242,078
Dividends declared per share	\$ 0.75	\$ 0.62	\$ 0.56	\$ 0.55	\$ 0.46
Capital expenditures	\$ 239,390	\$ 164,935	\$ 198,160	\$ 114,501	\$ 111,785
Other data (unaudited):					
Shipments:					
Steel operations segment (net tons)	10,609,763	9,726,977	9,245,946	8,328,150	7,358,366
Metals recycling operations segment					
Ferrous metals (gross tons)	5,123,553	4,952,973	5,070,380	5,139,506	5,566,238
Nonferrous metals (thousands of pounds)	1,131,412	1,086,799	1,103,505	1,082,777	1,173,771
Steel fabrication operations segment (net tons)	641,698	627,274	562,725	492,875	480,509
Steel operations segment production (net tons)	10,899,776	9,995,082	9,503,465	8,528,885	7,376,657
Number of employees	8,200	7,635	7,695	7,510	7,780
Balance sheet data:					
Cash and equivalents and short-term investments	\$ 1,057,003	\$ 1,028,649	\$ 841,483	\$ 727,032	\$ 361,363

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Property, plant and equipment, net	2,945,767	2,675,904	2,787,215	2,951,210	3,123,906
Total assets	7,703,563	6,855,732	6,423,732	6,202,082	7,233,159
Long-term debt (including current maturities)	2,376,723	2,381,940	2,356,826	2,594,656	2,981,849
Equity	3,775,989	3,195,068	2,777,459	2,545,111	2,795,527
Shares outstanding (in thousands)	225,272	237,397	243,785	243,090	241,449

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

Forward Looking Statements

This report contains some predictive statements about future events, including statements related to conditions in the steel and metallic scrap markets, Steel Dynamics' revenues, costs of purchased materials, future profitability and earnings, and the operation of new or existing facilities. These statements, which we generally precede or accompany by such typical conditional words as "anticipate," "intend," "believe," "estimate," "plan," "seek," "project" or "expect," or by the words "may," "will," or "should," are intended to be made as "forward-looking," subject to many risks and uncertainties, within the safe harbor protections of the Private Securities Litigation Reform Act of 1995. These statements speak only as of this date and are based upon information and assumptions, which we consider reasonable as of this date, concerning our businesses and the environments in which they operate. Such predictive statements are not guarantees of future performance, and we undertake no duty to update or revise any such statements. Some factors that could cause such forward-looking statements to turn out differently than anticipated include: (1) the effects of uncertain economic conditions; (2) cyclical and changing industrial demand; (3) changes in conditions in any of the steel or scrap-consuming sectors of the economy which affect demand for our products, including the strength of the non-residential and residential construction, automotive, manufacturing, appliance, pipe and tube, and other steel-consuming industries; (4) fluctuations in the cost of key raw materials and supplies (including steel scrap, iron units, zinc, graphite electrodes, and energy costs) and our ability to pass on any cost increases; (5) the impact of domestic and foreign import price competition; (6) unanticipated difficulties in integrating or starting up new or acquired businesses or assets; (7) risks and uncertainties involving product and/or technology development; and (8) occurrences of unexpected plant outages or equipment failures.

More specifically, we refer you to the sections titled Special Note Regarding Forward-Looking Statements at the beginning of Part I of this Report and Item 1A. Risk Factors, as well as in other subsequent reports we file with the Securities and Exchange Commission, for a more detailed explanation of these and other factors and risks that may cause such predictive statements to turn out differently than expected or anticipated. These reports are available publicly on the Securities and Exchange Commission website, www.sec.gov, and on our website, www.steeldynamics.com under "Investors – SEC Filings".

Operating Statement Classifications

Net Sales. Net sales from our operations are a factor of volumes shipped, product mix and related pricing. We charge premium prices for certain grades of steel, product dimensions, certain smaller volumes, and for value-added processing or coating of our steel products. Except for the steel fabrication operations, we recognize revenues from sales and the allowance for estimated returns and claims from these sales at the point in time control of the product transfers to the customer, upon shipment or delivery. Our steel fabrication operations recognize revenues over time based on completed fabricated tons to date as a percentage of total tons required for each contract.

Costs of Goods Sold. Our costs of goods sold represent all direct and indirect costs associated with the manufacture of our products. The principal elements of these costs are scrap and scrap substitutes (which represent the most significant single component of our consolidated costs of goods sold), steel substrate, direct and indirect labor and related benefits, alloys, zinc, transportation and freight, repairs and maintenance, utilities such as electricity and natural gas, and depreciation.

Selling, General and Administrative Expenses. Selling, general and administrative expenses consist of all costs associated with our sales, finance and accounting, and administrative departments. These costs include, among other items, labor and related benefits, professional services, insurance premiums, and property taxes. Company-wide profit sharing and amortization of intangible assets are each separately presented in the statement of operations.

Interest Expense, net of Capitalized Interest. Interest expense consists of interest associated with our senior credit facilities and other debt net of interest costs that are required to be capitalized during the construction period of certain capital investment projects.

Other Expense (Income), net. Other income consists of interest income earned on our temporary cash deposits and short-term investments; any other non-operating income activity, including income from non-consolidated investments accounted for under the equity method. Other expense consists of any non-operating costs, such as certain acquisition and financing expenses.

2018 Overview

Our 2018 consolidated results benefited from steady improvement in the domestic steel market, resulting in record steel shipments and sales, improved metal spreads from increased selling prices, and a resulting 67% increase in operating income. Underlying domestic steel consumption improved, based on increased consumption of approximately 2% from strong automotive, construction and energy markets. Lower finished steel imports benefited domestic steel mill utilization, with our metals recycling operations realizing increased volumes and operating income. The non-residential construction market continued to strengthen, resulting in record steel fabrication shipments and increased selling prices. However, the segment reported decreased operating income compared to 2017 due to higher average steel input costs.

We achieved record 2018 operational and financial results. We achieved numerous annual records, while continuing to focus on company-wide safety.

Summary of significant achievements within our annual 2018 results:

- Record consolidated net sales of \$11.8 billion
- Record operating income of \$1.7 billion and pretax income of \$1.6 billion
- Record consolidated net income of \$1.3 billion
- Record annual cash flow from operations of \$1.4 billion
- Record steel operations shipments of 10.6 million tons
- Record steel fabrication operations shipments of 642,000 tons

Consolidated operating income for 2018 increased \$655.5 million, or 61%, to \$1.7 billion, compared to \$1.1 billion in 2017. Net income attributable to Steel Dynamics, Inc. for 2018 increased \$445.6 million, or 55%, to \$1.3 billion, compared to 2017. Diluted earnings per share attributable to Steel Dynamics, Inc. was \$5.35 for 2018, compared to \$3.36 for 2017.

Acquisition of Heartland Flat Roll Division (Heartland)

On June 29, 2018, we completed our acquisition of 100% of Heartland Steel Processing, LLC (formerly known as Companhia Siderurgica Nacional, LLC) (Heartland), for a cash purchase price of \$396.4 million, plus customary working capital transaction purchase price adjustments of \$37.6 million, which were paid in September 2018. Located in Terre Haute, Indiana, Heartland produces various types of higher-margin, flat roll steel by further processing hot roll coils into pickle and oil, cold roll, and galvanized products. The acquisition expanded our annual flat roll steel shipping capacity of lighter-gauge and greater width flat roll steel offerings that will broaden and diversify our value-added product portfolio and provide operational and logistics benefits to other nearby operations. Heartland's post-acquisition operating results are reflected in our financial statements in the steel operations reporting segment.

2017 Overview

Our consolidated results for 2017 benefited from improved demand in the domestic steel market, resulting in record steel shipments and sales compared to 2016, improved metal spreads from increased selling prices, and a resulting 19% increase in operating income. Underlying domestic steel consumption increased in 2017, as the construction and energy markets continued to improve throughout the year, the heavy and off-road equipment and general industrial manufacturing markets improved, and the automotive markets remained strong. However, steel imports rose again in 2017, most notably in structural and fabricated structural, but also in cold roll and coated sheet. Supported by increased domestic steel mill utilization compared to 2016, our metals recycling operations were able to maintain consistent volume and realize increased ferrous metal spreads, while also further reducing operating costs, resulting in improved operating income of almost 250%. The non-residential construction market continued to strengthen, resulting in record steel fabrication sales and shipments, however increasing selling prices were outpaced by higher steel input costs, resulting in compressed metal spread.

Our 2017 performance, both operationally and financially was our second best year. We achieved numerous, then annual records, while continuing to focus on and improve company-wide safety.

Summary of significant achievements within our annual 2017 results:

- Record consolidated net sales of \$9.5 billion
- Record consolidated operating income of \$1.1 billion, and pretax income of \$935 million
- Record steel operations shipments of 9.7 million tons
- Record steel fabrication operations shipments of over 627,000 tons

Consolidated operating income for 2017 increased \$206.1 million, or 24%, to \$1.1 billion, compared to \$860.8 million in 2016, which excludes \$132.8 million of non-cash asset impairment charge. Net income attributable to Steel Dynamics, Inc. for 2017 increased \$354.1 million, or 77%, to \$812.7 million, compared to 2016. Diluted earnings per share attributable to Steel Dynamics, Inc. for 2017 was \$3.36, compared to \$1.56 for 2016. Included in net income for 2017 was a one-time tax benefit of \$180.6 million, or \$0.75 per diluted share, resulting from our revaluation of our deferred tax assets and liabilities in connection with the U.S. Federal Tax Cuts and Jobs Act of 2017, and net income for 2016 was reduced by \$76.4 million, or \$0.31 per diluted share, of non-cash asset impairment charge.

Segment Operating Results (dollars in thousands)

	Years Ended December 31,				2016
	2018	% Change	2017	% Change	
Net sales					
Steel Operations	\$ 9,263,152	29%	\$ 7,175,409	22%	\$ 5,870,924
Metals Recycling Operations	3,202,214	14%	2,813,004	30%	2,171,877
Steel Fabrication Operations	921,951	12%	824,425	17%	703,522
Other	429,060	14%	375,511	36%	276,912
	13,816,377		11,188,349		9,023,235
Intra-company	(1,994,538)		(1,649,552)		(1,246,126)
	\$ 11,821,839	24%	\$ 9,538,797	23%	\$ 7,777,109
Operating income (loss)					
Steel Operations	\$ 1,839,852	67%	\$ 1,098,630	19%	\$ 926,954
Metals Recycling Operations (1)	75,891	7%	71,052	248%	20,423
Asset Impairment Charges Reflected in					
Metals Recycling (1)	-		-		(5,500)
Steel Fabrication Operations	61,901	(29)%	87,295	(4)%	90,955
Other (2)	(253,195)	(33)%	(190,785)	37%	(301,116)
Asset Impairment Charges Reflected in					
Other (2)	-		-		(127,339)
	1,724,449		1,066,192		737,216
Intra-company	(2,040)		689		(9,250)
	\$ 1,722,409	61%	\$ 1,066,881	47%	\$ 727,966

- (1) Metals recycling operations segment 2016 operating income of \$20.4 million includes \$5.5 million of pretax non-cash goodwill impairment charge.
- (2) Other operations consist of subsidiary operations that are below the quantitative thresholds required for reportable segments and primarily consist of other smaller joint ventures and Minnesota ironmaking operations that have been idle since May 2015. Also included in "Other" are certain unallocated corporate accounts, such as the company's senior secured credit facility, senior notes, certain other investments and certain profit sharing expenses. Other operations operating loss of \$301.1 million in 2016 includes \$127.3 million of pretax non-cash asset impairment charges related to our Minnesota ironmaking operations.

Steel Operations Segment

Steel operations consist of our electric arc furnace steel mills, producing sheet and long products steel from ferrous scrap and scrap substitutes, utilizing continuous casting and automated rolling mills, with numerous downstream processing and coating lines, as well as IDI, our liquid pig iron production facility that supplies solely the Butler Flat Roll Division. Our steel operations sell a diverse portfolio of sheet and long products directly to end-users, steel fabricators, and service centers. These products are used in a wide variety of industry sectors, including the construction, automotive, manufacturing, transportation, heavy equipment and agriculture, and pipe and tube (including OCTG) markets (see Item 1. Business). Steel operations accounted for 75% of our consolidated net sales during 2018 and 72% during 2017 and 2016.

Steel Operations Segment Shipments (tons):

	Years Ended December 31,				
	2018	% Change	2017	% Change	2016
Total shipments	10,609,763	9%	9,726,977	5%	9,245,946
Intra-segment shipments	(612,655)		(378,081)		(282,610)
Steel Operations Segment shipments	9,997,108	7%	9,348,896	4%	8,963,336
External shipments	9,625,291	7%	9,015,013	5%	8,558,331

Segment Results 2018 vs. 2017

Overall domestic steel demand was strong throughout 2018, based on strength in the automotive, construction, and energy sectors, as well as generally lower finished steel imports compared to 2017. Steel operations segment shipments increased 7% to a record 10.0 million tons in 2018, as compared to 2017, with long products in particular reporting strong gains over the prior year due to improved customer demand and less import pressure primarily on structural, merchant-bar-quality and special-bar-quality products. Net sales for the steel operations increased 29% in 2018 when compared to 2017, due to the increase in shipments and an increase of \$158 per ton, or 21%, in average selling prices consistent with increased steel market demand and product pricing. Our steel mill utilization rate increased to 96% in 2018, as compared to 92% in 2017. Our steel utilization rates continue to outpace our domestic competitors due to our diversified value-added product offerings.

Metallic raw materials used in our electric arc furnaces represent our single most significant steel manufacturing cost, generally comprising approximately 60% of our steel operations' manufacturing costs, excluding the operations of The Techs, Heartland and Vulcan, which purchase, rather than produce, the steel they further process. Our metallic raw material cost per net ton consumed in our steel operations increased \$48, or 16%, in 2018, compared to 2017, consistent with overall increased domestic scrap pricing.

As a result of selling prices increasing more than scrap costs, metal spread (which we define as the difference between average selling prices and the cost of ferrous scrap consumed) increased 23% in 2018 compared to 2017. Operating income for the steel operations increased 67%, to a record \$1.8 billion, in 2018 compared to 2017, due to increased shipments and metal spread expansion.

Segment Results 2017 vs. 2016

Underlying domestic steel consumption increased in 2017, as the construction and energy markets continued to improve throughout the year, the heavy and off-road equipment and general industrial manufacturing markets improved, and the automotive markets remained strong, as we continued to gain market share in this market, particularly at our Columbus Flat Roll Division. With domestic steel consumption increasing in 2017 over 2016, steel imports, particularly for long products but also cold roll and coated sheet, rose over 15% from 2016 levels, representing 27% of 2017 domestic consumption. In spite of increased imports, our steel mills utilization rate increased to 92% in 2017, as compared to 87% in 2016, with increases in both our sheet and long products steel utilization rates. Our steel utilization rates continued to outpace our domestic competitors due to our diversified value-added product offerings. Net sales for the steel operations increased 22% in 2017, when compared to 2016, due to a 4% increase in steel operations shipments combined with an increase of \$110 per ton, or 17%, in average selling prices. Sheet steel average selling prices increased 19% in 2017 compared to 2016, while long products rose 10%.

Our metallic raw material cost per net ton consumed in our steel operations increased \$73, or 33%, compared to the same period in 2016, consistent with overall increased domestic ferrous scrap market pricing. Operating income for the steel operations increased 19%, to a record \$1.1 billion, in 2017, compared to 2016, due to an 8% increase in metal spread on higher selling prices, coupled with increased steel shipments.

Metals Recycling Operations Segment

Metals recycling operations consists solely of OmniSource and includes both ferrous and nonferrous scrap metal processing, transportation, marketing, and brokerage services, strategically located primarily in close proximity to our steel mills and other end-user scrap consumers throughout the eastern half of the United States. In addition, OmniSource designs, installs, and manages customized scrap management programs for industrial manufacturing companies at hundreds of locations throughout North America. Our steel mills utilize a large portion (increasing from 61% to 65% for the periods presented) of the ferrous scrap sold by OmniSource as raw material in our steelmaking operations, and the remainder is sold to other consumers, such as other steel manufacturers and foundries. Metals

recycling operations accounted for 13% of our consolidated net sales during 2018 and 15% during 2017 and 2016.

Metals Recycling Operations Segment Shipments:

	Years Ended December 31,		2017	% Change	2016
	2018	% Change			
Ferrous metal (gross tons)					
Total	5,123,553	3%	4,952,973	(2)%	5,070,380
Inter-company	(3,346,135)	8%	(3,108,858)	-	(3,112,616)
External shipments	1,777,418	(4)%	1,844,115	(6)%	1,957,764
Nonferrous metals (thousands of pounds)					
Total	1,131,412	4%	1,086,799	(2)%	1,103,505
Inter-company	(138,001)		(140,678)		(111,947)
External shipments	993,411	5%	946,121	(5)%	991,558

Segment Results 2018 vs. 2017

Our metals recycling operations benefited from improved domestic steel mill demand throughout 2018, as overall domestic steel mill utilization was approximately 78% in 2018, compared to 74% in 2017. Net sales increased 14% in 2018 as compared to 2017, driven by increased pricing and shipments on continued strong demand. Ferrous scrap average selling prices increased 14% during 2018 compared to 2017, while nonferrous average selling prices increased 5%. Ferrous metal spread (which we define as the difference between average selling prices and the cost of purchased scrap) decreased 5%, as higher unprocessed scrap procurement costs more than offset higher selling prices, while nonferrous metal spread increased 12%. Ferrous shipments to our own steel mills increased 8% in 2018, compared to 2017. Metals recycling operations operating income in 2018 of \$75.9 million increased 7% from the 2017 operating income of \$71.1 million, due to increased ferrous and nonferrous shipments, coupled with improved nonferrous metal spread.

Segment Results 2017 vs. 2016

Metals recycling operations operating income in 2017 of \$71.1 million increased \$45.1 million, or almost 250%, compared to 2016 (excluding the impact in 2016 of a \$5.5 million impairment charge). Net sales increased 30% in 2017 as compared to 2016, driven by increased ferrous and nonferrous pricing, which improved 39% and 29%, respectively, compared to 2016. We were able to maintain shipments close to 2016 levels despite the sale of some non-core locations in early 2017, as overall domestic steel mill utilization was 74% in 2017, compared to 70% in 2016. Metals recycling operations ferrous shipments to our steel mills increased to 63% of total tons shipped in 2017, compared to 61% in 2016. Ferrous metal spread improved 17% as selling prices increased throughout 2017, and we were able to achieve further reduced operating expenses.

Steel Fabrication Operations Segment

Steel fabrication operations include our New Millennium Building Systems joist and deck plants located throughout the United States and in Northern Mexico. Revenues from these plants are generated from the fabrication of steel joists, trusses, girders and steel deck used within the non-residential construction industry. Steel fabrication operations accounted for 8% of our consolidated net sales during 2018 and 9% during 2017 and 2016.

Segment Results 2018 vs. 2017

Net sales for our steel fabrication operations increased \$97.5 million, or 12%, to a record \$922.0 million during 2018, compared to 2017, as shipments increased 2% to a record 642,000 tons, and average selling prices increased \$123 per ton, or 9%. Our steel fabrication operations continue to lever our national operating footprint. Demand and order backlogs continue to be strong as our customer base remains optimistic about non-residential construction project development.

The purchase of various steel products is the largest single cost of production for our steel fabrication operations, generally representing approximately two-thirds of the total cost of manufacturing. The average cost of steel consumed increased by 21% in 2018, as compared to 2017, consistent with increased steel selling prices discussed in the steel operations results, while average selling prices increased only 9%, with resulting metal spread (which we define as the difference between average selling prices and the cost of purchased steel) decreasing 6% on a per ton basis. Operating income decreased \$25.4 million, or 29%, to \$61.9 million in 2018 compared to 2017, due to the increases in steel input costs outpacing selling price and volume increases.

Segment Results 2017 vs. 2016

The overall non-residential construction market continued to improve throughout 2017, demonstrating a positive growth profile, as our fabrication operations achieved record shipments in 2017. Net sales of \$824.4 million for the segment increased \$120.9 million, or 17%, in 2017,

compared to 2016, as volumes increased 11% and selling prices increased 5%. Our steel fabrication operations continued to realize strength in order activity and resulting shipments, as we continued to leverage our national operating footprint to sustain and improve market share, and market demand continued to improve.

The average cost of steel consumed increased by 15% in 2017, consistent with increased selling prices discussed in the steel operations results, as compared to 2016, while average selling prices increased only 5%, resulting in metal spread contracting 5%. Operating income decreased 4% to \$87.3 million in 2017 compared to 2016, as increased shipments were more than offset by metal spread contraction.

Other Operations

Other operations consist of subsidiary operations that are below the quantitative thresholds required for reportable segments and primarily consist of smaller joint ventures and Minnesota ironmaking operations that have been idle since May 2015. Also included in “Other” are certain unallocated corporate accounts, such as the company’s senior secured credit facility, senior notes, certain other investments and certain profit sharing expenses.

During the fourth quarter of 2016 impairment indicators related primarily to Mining Resources and Mesabi Mining fixed assets within our Minnesota ironmaking operations resulted in a non-cash asset impairment charge of \$127.3 million, including amounts attributable to noncontrolling interests of \$13.1 million, which reduced net income attributable to Steel Dynamics, Inc. by \$72.9 million for the year ended December 31, 2016.

Consolidated Results 2018 vs. 2017

Selling, General and Administrative Expenses. Selling, general and administrative expenses of \$416.6 million during 2018 increased 6% from \$394.6 million during 2017, representing 3.5% and 4.1% of net sales, respectively. Profit sharing expense during 2018 of \$156.0 million increased 71% from the \$91.3 million during 2017, consistent with our increased profitability.

Interest Expense, net of Capitalized Interest. During 2018, interest expense decreased 6% to \$126.6 million from \$134.4 million during 2017, due to the repayment of our \$350.0 million 6.375% senior notes due 2022, with 4.125% senior notes due 2025 in the latter half of 2017.

Other Expense (Income), net. Net other income of \$24.0 million in 2018 consists primarily of interest income associated with our invested cash and short-term investments. Net other income of \$2.8 million in 2017 included \$14.6 million of offsetting costs associated with call premium and other financing costs associated with the tender and call of the Senior Notes due 2022, which were more than offset by other income, primarily interest.

Income Tax Expense. During 2018, our income tax expense was \$364.0 million at an effective income tax rate of 22.5%, as compared to \$129.4 million at an effective income tax rate of 13.8%, during 2017. The lower effective tax

rate in 2017 was due to a one-time \$180.6 million net federal tax benefit resulting from the revaluation of deferred tax assets and liabilities in connection with the enacted Tax Cuts and Jobs Act of 2017, which reduced our 2017 effective tax rate 19.3%.

Included in the balance of unrecognized tax benefits of \$10.1 million at December 31, 2018, are potential benefits of \$6.0 million that, if recognized, would affect our effective tax rate. We recognize interest and penalties related to our tax contingencies on a net-of-tax basis in income tax expense. During the year ended December 31, 2018, we recognized a benefit from the decrease of interest expense of \$1.3 million, net of tax. In addition to the unrecognized tax benefits noted above, we had \$2.4 million accrued for the payment of interest and penalties at December 31, 2018.

We file income tax returns in the United States federal jurisdiction as well as income tax returns in various state jurisdictions. We have concluded U.S. federal income tax audits through 2015. We are subject to examination and proposed adjustments by the IRS for years 2016 and 2017, and tax years 2014-2017 remain open to various state and local jurisdictions. At this time, we do not believe there will be any significant examination adjustments that would result in a material change to our financial position, results of operations or cash flows. It is reasonably possible that the amount of unrecognized tax benefits could change in the next twelve months in an amount ranging from zero to \$5.3 million, as a result of the expiration of the statute of limitations and other federal and state income tax audits.

Consolidated Results 2017 vs. 2016

Selling, General and Administrative Expenses. Selling, general and administrative expenses of \$394.6 million during 2017 increased 6% from \$374.0 million during 2016, representing approximately 4.1% and 4.8% of net sales, respectively. The increase in 2017 compared to 2016 is due most notably to increased performance-based incentive compensation, associated with our increased profitability. Profit sharing of \$91.3 million in 2017, increased \$21.0 million, or 28% over 2016, with our increased profitability.

Interest Expense, net of Capitalized Interest. During 2017, interest expense decreased \$11.6 million to \$134.4 million, when compared to 2016. The decrease in interest expense is due to lower interest rates on our senior notes outstanding. In the fourth quarter of 2016, we called and repaid \$400.0 million of 6.125% senior notes due 2019 with 5.000% senior notes due 2026. Also, in the fourth quarter of 2016, we early paid off the remaining \$228.1 million of outstanding Senior Term Loan debt. In addition, in the second half of 2017, we called and repaid our \$350.0 million of 6.375% senior notes due 2022 with 4.125% senior notes due 2025.

Other Expense (Income), net. Net other income of \$2.8 million in 2017 included \$14.6 million of expense associated with call premium and other financing costs associated with the tender and call of the Senior Notes due 2022, which were more than offset by other income, primarily interest. Net other expense of \$17.8 million in 2016 included \$16.5 million of expense associated with call premium and other financing costs associated with the tender and call of the Senior Notes due 2019.

Income Tax Expense. During 2017, our income tax expense was \$129.4 million at an effective income tax rate of 13.8%, as compared to income tax expense of \$204.1 million resulting in an effective income tax rate of 36.2% during 2016. The lower effective tax rate in 2017 was due primarily to a one-time \$180.6 million net federal tax benefit resulting from our revaluation of deferred tax assets and liabilities in connection with the enacted Tax Cuts and Jobs Act of 2017, and discrete tax benefits related to valuation allowance reductions, state tax refunds and equity-based compensation.

Liquidity and Capital Resources

Capital Resources and Long term Debt. Our business is capital intensive and requires substantial expenditures for, among other things, the purchase and maintenance of equipment used in our steel, metals recycling, and steel fabrication operations, and to remain in compliance with environmental laws. Our short-term and long-term liquidity needs arise primarily from working capital requirements, capital expenditures, principal and interest payments related to our outstanding indebtedness, dividends to our shareholders, stock repurchases, and acquisitions. We have met these liquidity requirements primarily with cash provided by operations and long-term borrowings, and we also have availability under our Revolver. Our liquidity at December 31, 2018, is as follows (in thousands):

Cash and equivalents	\$ 828,220
Short-term investments	228,783
Revolver availability	1,188,009
Total liquidity	\$ 2,245,012

Our total outstanding debt decreased \$5.2 million during 2018 due to decreased revolving credit facility borrowings at one of our controlled subsidiaries. Our total long-term debt to capitalization ratio (representing our long-term debt, including current maturities, divided by the sum of our long-term debt, redeemable noncontrolling interests, and our total stockholders' equity) decreased to 37.9% at December 31, 2018, compared to 41.9% at December 31, 2017, due to increases in total equity from earnings, net of dividends and share repurchases.

Our senior secured credit facility (Facility), which provides a \$1.2 billion Revolver, was renewed and extended in June 2018 to extend maturity to June 2023. Subject to certain conditions, we have the opportunity to increase the Revolver size by at least \$750.0 million. The Facility is guaranteed by certain of our subsidiaries; and is secured by substantially all of our and our wholly-owned subsidiaries' receivables and inventories, and by pledges of all shares of our wholly-owned subsidiaries' capital stock or other equity interests, and intercompany debt held by us as collateral. The Revolver is available to fund working capital, capital expenditures, and other general corporate purposes. The Facility contains financial covenants and other covenants pertaining to our ability (which may under certain circumstances be limited) to make capital expenditures; incur indebtedness; permit liens on property; enter into

transactions with affiliates; make restricted payments or investments; enter into mergers, acquisitions or consolidations; conduct asset sales; pay dividends or distributions, or enter into other specified transactions and activities. Our ability to borrow funds within the terms of the Revolver is dependent upon our continued compliance with the financial and other covenants. At December 31, 2018, we had \$1.2 billion of availability on the Revolver, \$12.0 million of outstanding letters of credit and other obligations which reduce availability, and there were no borrowings outstanding.

The financial covenants under our Facility state that we must maintain an interest coverage ratio of not less than 2.50:1.00. Our interest coverage ratio is calculated by dividing our last-twelve-months (LTM) consolidated adjusted EBITDA (earnings before interest, taxes, depreciation, amortization, and certain other non-cash transactions as allowed in the Facility) by our LTM gross interest expense, less amortization of financing fees. In addition, a net debt (as defined in the Facility) to LTM consolidated adjusted EBITDA (net debt leverage ratio) of not more than 5.00:1.00 must be maintained. If the net debt leverage ratio exceeds 3.50:1.00 at any time, our ability to make certain payments as defined in the Facility (which includes cash dividends to stockholders and share purchases, among other things), is limited. At December 31, 2018, our interest coverage ratio and net debt leverage ratio were 16.88:1.00 and 0.85:1.00, respectively. We were, therefore, in compliance with these covenants at December 31, 2018, and we anticipate we will continue to be in compliance during the next twelve months.

Working Capital. We generated cash flow from operations of \$1.4 billion in 2018. Operational working capital (representing amounts invested in trade receivables and inventories, less current liabilities other than income taxes payable and debt) increased \$284.4 million, excluding acquired Heartland working capital, to \$1.9 billion at December 31, 2018, consistent with increases in volumes, selling prices, inventory costs, and profitability during 2018.

Capital Investments. During 2018, we invested \$239.4 million in property, plant and equipment, primarily within our steel operations segment, compared with \$164.9 million invested during 2017. The increase in 2018 relates primarily to organic steel growth opportunities.

Cash Dividends. As a reflection of continued confidence in our current and future cash flow generation ability and financial position, we increased our quarterly cash dividend by 21% to \$0.1875 per share in the first quarter 2018 (from \$0.155 per share in 2017), resulting in declared cash dividends of \$174.4 million during 2018, compared to \$148.2 million during 2017. We paid cash dividends of \$168.9 million and \$145.6 million during 2018 and 2017, respectively. Our board of directors, along with executive management, approves the payment of dividends on a quarterly basis. The determination to pay cash dividends in the future is at the discretion of our board of directors, after taking into account various

factors, including our financial condition, results of operations, outstanding indebtedness, current and anticipated cash needs and growth plans. In addition, the terms of our Facility and the indentures relating to our senior notes may restrict the amount of cash dividends we can pay.

Other. In 2016, the board of directors authorized a share repurchase program of up to \$450 million of our common stock, and in August 2018 an additional share repurchase program of up to \$750 million of our common stock. Under the share repurchase programs, purchases will take place, as and when, we determine in open market or private transactions made based upon the market price of our common stock, the nature of other investment opportunities or growth projects, our cash flows from operations, and general economic conditions. The share repurchase programs do not require us to acquire any specific number of shares, and may be modified, suspended, extended or terminated by us at any time. We acquired 13.1 million shares of our common stock for \$523.6 million in 2018 pursuant to these programs, completing the 2016 \$450 million program and initiating the 2018 \$750 million program. See Part II, Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities for additional information.

Our ability to meet our debt service obligations and reduce our total debt will depend upon our future performance which, in turn, will depend upon general economic, financial and business conditions, along with competition, legislation and regulatory factors that are largely beyond our control. In addition, we cannot assure that our operating results, cash flows, access to credit markets and capital resources will be sufficient for repayment of our indebtedness in the future. We believe that based upon current levels of operations and anticipated growth, cash flows from operations, together with other available sources of funds, including if necessary borrowings under our Revolver through its term, will be adequate for the next twelve months for making required payments of principal and interest on our indebtedness, funding working capital requirements, and anticipated capital expenditures.

During 2018, we received benefits from state and local governments in the form of real estate and personal property tax abatements and credits of approximately \$13.0 million. Based on our current abatements and incentive credits, and utilizing our existing long-lived asset structure, we estimate the remaining annual benefit to our future operations to be approximately \$12.1 million, \$6.3 million, \$5.9 million, \$5.8 million, \$5.3 million, \$5.0 million, and \$4.8 million during the years 2019 through 2025, respectively.

Contractual Obligations and Other Long-Term Liabilities

We have the following minimum commitments under contractual obligations, including purchase obligations, as defined by the Securities and Exchange Commission. A "purchase obligation" is defined as an agreement to purchase goods or services that is enforceable and legally binding and that specifies all significant terms, including fixed or minimum quantities to be purchased; fixed, minimum or variable price provisions; and the approximate timing of the transaction. Other long-term liabilities are defined as long-term liabilities that are reflected on our balance sheet under generally accepted accounting principles. Based on this definition, the following table includes only those contracts which include fixed or minimum obligations. It does not include normal purchases, which are made in the ordinary course of business. The following table provides aggregated information about outstanding contractual obligations and other long-term liabilities as of December 31, 2018 (in thousands):

	Payments Due By Period				
	Total	2019	2020 & 2021	2022 & 2023	2024 & After
Long-term debt (1)	\$ 2,401,393	\$ 24,234	\$ 707,616	\$ 406,258	\$ 1,263,285
Estimated interest payments on debt (2)	624,106	124,316	236,924	156,963	105,903
Purchase obligations (3)	741,643	349,125	217,552	121,180	53,786
Construction commitments (4)	155,096	155,096	-	-	-
Lease commitments	86,455	18,890	30,329	17,873	19,363
Other commitments (5)	1,866	350	475	400	641
Total (6)	\$ 4,010,559	\$ 672,011	\$ 1,192,896	\$ 702,674	\$ 1,442,978

(1)The long-term debt payment information presented above assumes that our senior notes remain outstanding until maturity. Refer to Note 3. Long-term Debt to the consolidated financial statements elsewhere in this report for additional information regarding these transactions, and our long-term debt.

(2)The estimated interest payments shown above assume interest rates of 5.125% on our \$700.0 million senior unsecured notes due October 2021; 5 1/4% on our \$400.0 million senior unsecured notes due April 2023; 5.500% on our \$500.0 million senior unsecured notes due October 2024; 4.125% on our \$350.0 million senior unsecured notes due September 2025; 5.00% on our \$400.0 million senior unsecured notes due December 2026; 0.225% commitment fee on our available Revolver; and an average of 5.2% on our other debt of \$51.4 million.

(3)Purchase obligations include commitments we have for the purchase of electricity, natural gas and its transportation, fuel, air products, electrodes, alloys, and zinc. These arrangements have “take or pay” or other similar commitment provisions. We have utilized such “take or pay” requirements during the past three years under these contracts, except for certain air products at our Minnesota ironmaking operations which have been idle since May 2015.

(4)Construction commitments relate to firm contracts we have with various vendors for the completion of certain construction projects at our various divisions at December 31, 2018.

(5)Other commitments principally relate to deferred compensation plan obligations.

(6) We expect to make cash outlays in the future related to our unrecognized tax benefits; however, due to the uncertainty of the timing, we are unable to make reasonably reliable estimates regarding the period of cash settlement with the respective taxing authorities. Accordingly, unrecognized tax benefits and related interest and penalties of \$12.5 million as of December 31, 2018, have been excluded from the contractual obligations table above. Refer to Note 4. Income Taxes to the consolidated financial statements elsewhere in this report for additional information.

Other Matters

Inflation

We believe that inflation has not had a material effect on our results of operations.

Environmental and Other Contingencies

We have incurred, and in the future will continue to incur, capital expenditures and operating expenses for matters relating to environmental control, remediation, monitoring and compliance. During 2018, we incurred costs related to the monitoring and compliance of environmental matters in the amount of approximately \$42.3 million and capital expenditures related to environmental compliance of approximately \$574,000. Of the costs incurred during 2018 for monitoring and compliance, approximately 76% were related to the normal transportation of certain types of waste produced in our steelmaking processes and other facilities, in accordance with legal requirements. We incurred combined environmental remediation costs of approximately \$267,000 at all of our facilities during 2018. We have an accrual of \$3.3 million recorded for environmental remediation related to our metals recycling operations, and \$2.6 million related to Minnesota ironmaking operations. We believe, apart from our dependence on environmental construction and operating permits for our existing and any future manufacturing facilities, that compliance with current environmental laws and regulations is not likely to have a materially adverse effect on our financial condition, results of operations or liquidity. However, environmental laws and regulations evolve and change, and we may become subject to more stringent environmental laws and regulations in the future, such as the impact of United States government or various governmental agencies introducing regulatory changes in response to the potential of climate change.

Critical Accounting Policies and Estimates

Management's Discussion and Analysis of Our Financial Condition and Results of Operations is based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. We review the accounting policies we use in reporting our financial results on a regular basis. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses and related disclosure of contingent liabilities. We evaluate the appropriateness of these estimations and judgments on an ongoing basis. We base our estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Results may differ from these estimates due to actual outcomes being different from those on which we based our assumptions. We believe the following critical accounting policies affect our more significant judgments and estimates used in the preparation of our consolidated financial statements.

Revenue Recognition and Allowance for Doubtful Accounts. Except for our steel fabrication operations, we recognize revenues at the point in time the performance obligation is satisfied, and control of the product is transferred to the customer upon shipment or delivery, at the amount of consideration the company expects to receive, including any variable consideration. The variable consideration included in the company's steel operations segment contracts, which is not constrained, include estimated product returns and customer claims, and may include volume rebates

which are recorded on an expected value basis. Our steel fabrication operations segment recognizes revenue over time at the amount of consideration the company expects to receive. Revenue is measured on an output method representing completed fabricated tons to date as a percentage of total tons required for each contract. The company does not exercise significant judgements in determining the timing of satisfaction of performance obligations or the transaction price. Provision is made for estimated product returns and customer claims based on historical experience. If the historical data used in our estimates does not reflect future returns and claims trends, additional provision may be necessary. The allowance for doubtful accounts is based on our best estimate of known credit risks, historical experience, and current economic conditions affecting our customers, which estimates may or may not prove accurate.

We are exposed to credit risk in the event of nonpayment by our customers, which in steel operations are principally intermediate steel processors and service centers that sell our products to numerous industry sectors, including the construction, automotive, manufacturing, transportation, heavy and agriculture equipment, and pipe and tube (including OCTG) markets. Our metals recycling operations sell ferrous scrap to steel mills and foundries, and nonferrous scrap, such as copper, brass, aluminum and stainless steel to, among others, ingot manufacturers, copper refineries and mills, smelters, and specialty mills. Our steel fabrication operations sell fabricated steel joists and deck primarily to the non-residential construction market. We mitigate our exposure to credit risk, which we generally extend initially on an unsecured basis, by performing ongoing credit evaluations and taking further action when necessary, such as requiring letters of credit or other security interests to support the customer receivable. If the financial condition of our customers were to deteriorate, resulting in the impairment of their ability to make payments, additional allowance may be required.

Inventories. We record inventories at lower of cost or net realizable value. Cost is determined using a weighted average cost method for raw materials and supplies, and on a first-in, first-out, basis for other inventory. We record amounts required, if any, to reduce the carrying value of inventory to its net realizable value as a charge to cost of goods sold. If product selling prices were to decline in future periods, further write-down of inventory could result, specifically raw material inventory such as scrap purchased during periods of peak market pricing.

Impairments of Long-Lived Tangible and Definite Lived Intangible Assets. We review long-lived assets for impairment whenever events or changes in circumstances indicate the carrying amount of such assets may not be fully recoverable. Impairment losses are recorded on long-lived assets used in operations when indicators of impairment are present and the undiscounted cash flows estimated to be generated by those assets are less than the assets' carrying amounts. The impairment loss is measured by comparing the fair value of the asset to its carrying amount. We consider various factors and determine whether an impairment test is necessary, including by way of examples, a significant and prolonged deterioration in operating results and/or projected cash flows, significant changes in the extent or manner in which an asset is used, technological advances with respect to assets which would potentially render them obsolete, our strategy and capital planning, and the economic climate in markets to be served. When determining future cash flows and if necessary, fair value, we must make judgments as to the expected utilization of assets and estimated future cash flows related to those assets. We consider historical and anticipated future results, general economic and market conditions, the impact of planned business and operational strategies and all other available information at the time the estimates are made. Those estimates and judgments may or may not ultimately prove accurate.

A long-lived asset is classified as held for sale upon meeting specified criteria related to ability and intent to sell. An asset classified as held for sale is measured at the lower of its carrying amount or fair value less cost to sell. As of December 31, 2018, and 2017, the company reported \$8.3 million and \$8.7 million, respectively, of assets held for sale within other current assets in our consolidated balance sheet. An impairment loss is recognized for any initial or subsequent write-down of the asset held for sale to its fair value less cost to sell. For assets determined to be classified as held for sale in the year ended December 31, 2018 and 2017, the asset carrying amounts approximated their fair value less cost to sell. The company determined fair value using Level 3 fair value inputs as provided for under ASC 820, consisting of information provided by brokers and other external sources along with management's own assumptions.

Significant events occurred during the fourth quarter of 2016 that represented impairment indicators related primarily to Mining Resources and Mesabi Mining fixed assets within our Minnesota ironmaking operations. The company therefore undertook a fourth quarter 2016 assessment of the recoverability of the carrying amounts of primarily our Mining Resources and Mesabi Mining operation's fixed assets. With the company's outlook at the time of this 2016 assessment regarding future cash flows, the company concluded that the carrying amounts of the fixed assets were no longer fully recoverable, and they were in fact impaired. This 2016 assessment resulted in a non-cash asset impairment charge of \$127.3 million, including amounts attributable to noncontrolling interests of \$13.1 million, which reduced net income attributable to Steel Dynamics, Inc. by \$72.9 million for the year ended December 31, 2016. The carrying values of the impaired assets were adjusted to their estimated fair values at that time as determined primarily on the cost approach, as well as expected future discounted cash flows (an income approach), using Level 3 fair value inputs as provided for under ASC 820.

Goodwill and Other Indefinite-Lived Intangible Assets.

Our goodwill relates to various business combinations and is allocated to the following reporting units at December 31 (in thousands):

	2018	2017
Steel Operations Segment		
Columbus Flat Roll Division	\$ 19,682	\$ 19,682
The Techs	142,783	142,783
Heartland Flat Roll Division	46,143	-
Vulcan Threaded Products	7,824	7,824
Roanoke Bar Division	29,041	29,041
Metals Recycling Operations Segment – OmniSource	182,247	185,638
Steel Fabrication Operations Segment – New Millennium Building Systems	1,925	1,925
	\$ 429,645	\$ 386,893

At least once annually (as of October 1) or when indicators of impairment exist, the company performs an impairment test for goodwill. Goodwill is allocated to various reporting units, which are generally one level below the company's operating segments. We utilize a two-stepped approach to evaluate goodwill impairment. The first step of the test determines if there is potential goodwill impairment. In this step the company compares the fair value of the reporting unit to its carrying amount (which includes goodwill). The fair value of the reporting unit is determined by using an estimate of future cash flows utilizing a risk-adjusted discount rate to calculate the net present value of future cash flows (income approach), and by using a market approach based upon an analysis of valuation metrics of comparable peer companies, Level 3 inputs as provided for under ASC 820. If the fair value exceeds the carrying value, there is no impairment. If the carrying amount exceeds the fair value, the company performs the second step of the test, which measures the amount of impairment loss to be recorded. In the second step, the company compares the carrying amount of the goodwill to the implied fair value of the goodwill based on the net fair value of the recognized and unrecognized assets and liabilities of the reporting unit to which it is allocated. If the implied fair value is less than the carrying value, an impairment loss is recorded to the extent that the fair value of the goodwill is less than its carrying value.

Key assumptions used to determine the estimated fair value of each reporting unit under the discounted cash flows method (income approach) include: (a) expected cash flows for the five-year period following the testing date (including market share, sales volumes and prices, costs to produce and estimated capital needs); (b) an estimated terminal value using a terminal year growth rate determined based on the growth prospects of the reporting unit; and (c) a risk-adjusted discount rate based on management's best estimate of market participants' after-tax weighted average cost of capital and market risk premiums. Key assumptions used to determine the estimated fair value of each reporting unit under the market approach include the expected revenues and cash flows in the next year. We consider historical and anticipated future results, general economic and market conditions, the impact of planned business and operational strategies and all available information at the time the fair values of its reporting units are estimated. Those estimates and judgments may or may not ultimately prove accurate.

Goodwill acquired in past transactions are naturally more susceptible to impairment, primarily due to the fact that they are recorded at fair value based on operating plans and economic conditions at the time of acquisition. Consequently, if operating results and/or economic conditions deteriorate after an acquisition, it could result in the impairment of the acquired assets. A deterioration of economic conditions may not only negatively impact the estimated operating cash flows used in our cash flow models but may also negatively impact other assumptions used in our analyses, including, but not limited to, the estimated cost of capital and/or discount rates. Additionally, we are required to ensure that assumptions used to determine fair value in our analyses are consistent with the assumptions a hypothetical marketplace participant would use. As a result, the cost of capital and/or discount rates used in our analyses may increase or decrease based on market conditions and trends, regardless of whether our actual cost of capital has changed. Therefore, we may recognize an impairment in spite of realizing actual cash flows that are approximately equal to or greater than our previously forecasted amounts.

Our fourth quarter 2018, 2017, and 2016 annual goodwill impairment analyses did not result in any impairment charges. Management does not believe that it is reasonably likely that our reporting units will fail step one of a goodwill impairment test in the near term, as the determined fair value of the reporting units with goodwill exceeded their carrying value by more than an insignificant amount. We will continue to monitor operating results within all reporting units throughout the upcoming year to determine if events and circumstances warrant interim impairment testing. Otherwise, all reporting units will again be subject to the required annual impairment test during the fourth quarter of 2019. Changes in judgments and estimates underlying our analysis of goodwill for possible impairment, including expected future operating cash flows and discount rate, could decrease the estimated fair value of our reporting units in the future and could result in an impairment of goodwill.

In 2016, a \$5.5 million OmniSource goodwill impairment charge was recorded in conjunction with OmniSource entering into a definitive sale agreement with a third-party pertaining to certain OmniSource long-lived assets, inventory, and spare parts, as provided under ASC 350.

Income Taxes. We are required to estimate our income taxes as a part of the process of preparing our consolidated financial statements. This requires us to estimate our actual current tax exposure together with assessing temporary differences resulting from differing treatments of items for tax and accounting purposes. These differences result in deferred tax assets and liabilities, which are included within our consolidated balance sheet. We must then assess the likelihood that our deferred tax assets will be recovered from future taxable income and, to the extent we believe that recovery is not likely, we must establish a valuation allowance. We also establish reserves to reduce some or all of the tax benefit of any of our tax positions at the time we determine that the positions become uncertain. We adjust these reserves, including any impact on the related interest and penalties, in light of changing facts and circumstances, such as the progress of a tax audit. A number of years may elapse before a particular matter for which we have established a reserve is audited by a taxing authority and finally resolved. The number of years with open tax audits varies

depending on the tax jurisdiction. The tax benefit that has been previously reserved because of a failure to meet the "more likely than not" recognition threshold would be recognized in our income tax expense in the first interim period when the uncertainty disappears. Settlement of any particular issue would usually require the use of cash.

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ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Market Risk

In the normal course of business, we are exposed to interest rate changes. Our objectives in managing fluctuations in interest rates are to limit the impact of these rate changes on earnings and cash flows and to lower overall borrowing costs. To achieve these objectives, we may use interest rate swaps to manage net exposure to interest rate changes related to our portfolio of borrowings.

The following table represents the principal cash repayments and related weighted average interest rates by maturity date for our long-term debt, as of December 31, 2018 (in thousands):

	Interest Rate Risk			
	Fixed Rate		Variable Rate	
	Principal	Average Rate	Principal	Average Rate
Expected maturity date:				
2019	\$ 4,649	5.0%	\$ 19,585	4.8%
2020	3,908	5.6	-	
2021	703,708	5.3	-	
2022	3,174	5.5	-	
2023	403,084	5.3	-	
Thereafter	1,263,285	5.0	-	
Total Debt Outstanding	\$ 2,381,808	5.1%	\$ 19,585	4.8%
Fair value	\$ 2,338,883		\$ 19,585	

Commodity Risk

In the normal course of business, we are exposed to the market risk and price fluctuations related to the sale of our products and to the purchase of raw materials used in our operations, such as metallic raw materials, electricity, natural gas and its transportation services, fuel, air products, zinc, alloys, and electrodes. Our risk strategy associated with product sales has generally been to obtain competitive prices for our products and to allow operating results to reflect market price movements dictated by supply and demand.

Our risk strategy associated with the purchase of raw materials utilized within our operations has generally been to make some commitments with suppliers relating to future expected requirements for some commodities such as electricity, natural gas and its transportation services, fuel, air products, zinc, alloys, and electrodes. Certain of these commitments contain provisions which require us to “take or pay” for specified quantities without regard to actual usage for periods of up to 6 years for physical commodity requirements and commodity transportation requirements, and for up to 14 years for air products. Our commitments for these arrangements with “take or pay” or other similar commitment provisions for the years ending December 31 are as follows (in thousands):

2019	\$ 349,125
2020	113,636
2021	103,916
2022	95,899
2023	25,281
Thereafter	53,786
	\$ 741,643

We utilized such “take or pay” requirements during the past three years under these contracts, except for certain air products at our Minnesota ironmaking operations which have been idle since May 2015. We believe that production requirements will be such that consumption of the products or services purchased under these commitments will occur in the normal production process, other than certain air products related to our Minnesota ironmaking operations during the idle period. We also purchase electricity consumed at our Butler Flat Roll Division pursuant to a contract which extends through December 2020, which establishes an agreed fixed-rate energy charge per Mill/kWh consumed for each year through the expiration of the agreement.

In our metals recycling and steel operations, we have certain fixed price contracts with various customers and suppliers for future delivery of nonferrous and ferrous metals. Our risk strategy has been to enter into base metal financial contracts with the goal to protect the profit margin, within certain parameters, that was contemplated when we entered into the transaction with the customer or vendor. At December 31, 2018, we had a cumulative unrealized gain associated with these financial contracts of \$668,000, substantially all of which have settlement dates in 2019. We believe the customer contracts associated with the financial contracts will be fully consummated.

ITEM 8. CONSOLIDATED FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

The management of Steel Dynamics, Inc. is responsible for the preparation and integrity of the company's consolidated financial statements and for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Rule 13a – 15(f) of the Exchange Act, for the company (including its consolidated subsidiaries). We maintain accounting and internal control systems which are intended to provide reasonable assurance that assets are safeguarded against loss from unauthorized use or disposition, transactions are executed in accordance with management's authorization, and accounting records are reliable for preparing financial statements in accordance with accounting principles generally accepted in the United States. We are dedicated to ensuring that we maintain the high standards of financial accounting and reporting that we have established. Our culture demands integrity and an unyielding commitment to strong internal control practices and policies.

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 our assets; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of the financial statements in accordance with generally accepted accounting principles; and provide reasonable assurance that our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on our financial statements.

Because of its inherent limitations, internal control over financial reporting may not always 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 policies and procedures may deteriorate.

We acquired Heartland Steel Processing, LLC (Heartland) on June 29, 2018. In conducting our evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2018, we have elected to exclude Heartland from our evaluation in the year of acquisition as permitted by the Securities and Exchange Commission. Heartland constituted approximately 7% of the company's total assets as of December 31, 2018, and approximately 2% of the company's net sales for the year then ended.

Under the supervision and with the participation of our management, including our principal executive officer and our principal financial officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting. The framework on which such evaluation was based upon is contained in the report entitled "Internal Control—Integrated Framework" issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 Framework) (the "COSO criteria"). Based on that evaluation, management concluded that our internal control over financial reporting was effective as of December 31, 2018, the end of the period covered by this report.

/s/ Mark D. Millett
Chief Executive Officer
(Principal Executive Officer)

/s/ Theresa E. Wagler
Executive Vice President and Chief Financial Officer
(Principal Financial Officer)

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and the Board of Directors Steel Dynamics, Inc.

Opinion on Internal Control over Financial Reporting

We have audited Steel Dynamics, Inc.'s internal control over financial reporting as of December 31, 2018, 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, Steel Dynamics, Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on the COSO criteria.

As indicated in the accompanying Management's Report on Internal Control Over Financial Reporting, management's assessment of and conclusion on the effectiveness of internal control over financial reporting did not include the internal controls of Heartland Steel Processing, LLC, which is included in the 2018 consolidated financial statements of the Company and constituted 7% of total assets as of December 31, 2018 and 2% of net sales for the year then ended. Our audit of internal control over financial reporting of the Company also did not include an evaluation of the internal control over financial reporting of Heartland Steel Processing, LLC.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of Steel Dynamics, Inc. as of December 31, 2018 and 2017, the related consolidated statements of income, comprehensive income, equity, and cash flows for each of the three years in the period ended December 31, 2018, and the related notes and our report dated February 27, 2019 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 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/ Ernst & Young LLP

Indianapolis, Indiana

February 27, 2019

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and the Board of Directors Steel Dynamics, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Steel Dynamics, Inc. (the Company) as of December 31, 2018 and 2017, and the related consolidated statements of income, comprehensive income, equity and cash flows for each of the three years in the period ended December 31, 2018, 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, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in conformity with U.S. generally accepted accounting principles.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company’s internal control over financial reporting as of December 31, 2018, 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 27, 2019 expressed an unqualified opinion thereon.

Basis of 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.

/s/ Ernst & Young LLP

We have served as the Company’s auditor since 1999.

Indianapolis, Indiana

February 27, 2019

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STEEL DYNAMICS, INC.

CONSOLIDATED BALANCE SHEETS

(in thousands, except share data)

Assets	December 31, 2018	2017
Current assets		
Cash and equivalents	\$ 828,220	\$ 1,028,649
Short-term investments	228,783	-
Accounts receivable, net of related allowances of \$17,495 and \$15,036 as of December 31, 2018, and December 31, 2017, respectively	1,040,220	846,415
Accounts receivable-related parties	3,536	22,422
Inventories	1,859,168	1,519,347
Other current assets	72,730	91,509
Total current assets	4,032,657	3,508,342
Property, plant and equipment, net	2,945,767	2,675,904
Intangible assets, net of accumulated amortization of \$294,449 and \$269,868 as of December 31, 2018, and December 31, 2017, respectively	270,328	256,909
Goodwill	429,645	386,893
Other assets	25,166	27,684
Total assets	\$ 7,703,563	\$ 6,855,732
Liabilities and Equity		
Current liabilities		
Accounts payable	\$ 536,743	\$ 473,765
Accounts payable-related parties	14,011	15,683
Income taxes payable	7,468	3,696
Accrued payroll and benefits	264,542	195,909
Accrued interest	25,526	25,533
Accrued expenses	146,613	125,138
Current maturities of long-term debt	24,234	28,795
Total current liabilities	1,019,137	868,519
Long-term debt	2,352,489	2,353,145
Deferred income taxes	435,838	305,949
Other liabilities	8,870	21,811
Total liabilities	3,816,334	3,549,424
Commitments and contingencies		

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Redeemable noncontrolling interests	111,240	111,240
Equity		
Common stock voting, \$.0025 par value; 900,000,000 shares authorized; 265,822,402 and 265,003,133 shares issued; and 225,272,174 and 237,396,839 shares outstanding, as of December 31, 2018, and December 31, 2017, respectively	645	644
Treasury stock, at cost; 40,550,228 and 27,606,294 shares, as of December 31, 2018, and December 31, 2017 respectively	(1,184,243)	(665,297)
Additional paid-in capital	1,160,048	1,141,534
Retained earnings	3,958,320	2,874,693
Accumulated other comprehensive income	301	-
Total Steel Dynamics, Inc. equity	3,935,071	3,351,574
Noncontrolling interests	(159,082)	(156,506)
Total equity	3,775,989	3,195,068
Total liabilities and equity	\$ 7,703,563	\$ 6,855,732

See notes to consolidated financial statements.

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STEEL DYNAMICS, INC.

CONSOLIDATED STATEMENTS OF INCOME

(in thousands, except per share data)

	Years Ended December 31,		
	2018	2017	2016
Net sales			
Unrelated parties	\$ 11,801,609	\$ 9,364,213	\$ 7,607,180
Related parties	20,230	174,584	169,929
Total net sales	11,821,839	9,538,797	7,777,109
Costs of goods sold	9,499,025	7,956,783	6,442,245
Gross profit	2,322,814	1,582,014	1,334,864
Selling, general and administrative expenses	416,640	394,631	374,009
Profit sharing	155,985	91,309	71,285
Amortization of intangible assets	27,780	29,193	28,765
Asset impairment charge	-	-	132,839
Operating income	1,722,409	1,066,881	727,966
Interest expense, net of capitalized interest	126,620	134,399	146,037
Other expense (income), net	(23,985)	(2,753)	17,796
Income before income taxes	1,619,774	935,235	564,133
Income tax expense	363,969	129,439	204,127
Net income	1,255,805	805,796	360,006
Net loss attributable to noncontrolling interests	2,574	6,945	22,109
Net income attributable to Steel Dynamics, Inc.	\$ 1,258,379	\$ 812,741	\$ 382,115
Basic earnings per share attributable to Steel Dynamics, Inc. stockholders	\$ 5.38	\$ 3.38	\$ 1.57
Weighted average common shares outstanding	233,923	240,132	243,576
Diluted earnings per share attributable to Steel Dynamics, Inc. stockholders, including the effect of assumed conversions when dilutive	\$ 5.35	\$ 3.36	\$ 1.56

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Weighted average common shares and share equivalents outstanding	235,193	241,781	245,298
Dividends declared per share	\$ 0.75	\$ 0.62	\$ 0.56

See notes to consolidated financial statements.

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STEEL DYNAMICS, INC.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(in thousands)

	Years Ended December 31,		
	2018	2017	2016
Net income	\$ 1,255,805	\$ 805,796	\$ 360,006
Other comprehensive income - net unrealized gain on cash flow hedging derivatives, net of income tax expense of \$94 for 2018	301	-	-
Comprehensive income	1,256,106	805,796	360,006
Comprehensive loss attributable to noncontrolling interests	2,574	6,945	22,109
Comprehensive income attributable to Steel Dynamics, Inc.	\$ 1,258,680	\$ 812,741	\$ 382,115

See notes to consolidated financial statements.

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STEEL DYNAMICS, INC.

CONSOLIDATED STATEMENTS OF EQUITY

(in thousands)

	Shares Common	Treasury	Common Stock	Treasury Stock	Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income	Noncontrolling Interests	Total Equity
Balances at January 1, 2016	243,090	19,848	\$ 638	\$ (396,455)	\$ 1,110,253	\$ 1,965,291	\$ -	\$ (134,616)	\$ 2,545,111
Proceeds from exercise of stock options, including related tax effect	556	12	3	-	9,834	-	-	-	9,837
Dividends declared	-	-	-	-	-	(136,472)	-	-	(136,472)
Noncontrolling investors, net	-	-	-	-	-	(356)	-	7,164	6,808
Share repurchases	(732)	732	-	(25,034)	-	-	-	-	(25,034)
Equity-based compensation	871	(247)	-	4,660	12,662	(119)	-	-	17,203
Comprehensive and net income (loss)	-	-	-	-	-	382,115	-	(22,109)	360,006
Balances at December 31, 2016	243,785	20,345	641	(416,829)	1,132,749	2,210,459	-	(149,561)	2,777,459
Dividends declared	-	-	-	-	-	(148,231)	-	-	(148,231)
Share repurchases	(7,439)	7,439	-	(252,242)	-	-	-	-	(252,242)
Equity-based compensation	1,051	(178)	3	3,774	8,785	(276)	-	-	12,286
Comprehensive and net income (loss)	-	-	-	-	-	812,741	-	(6,945)	805,796
Balances at December 31,	237,397	27,606	644	(665,297)	1,141,534	2,874,693	-	(156,506)	3,195,068

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2017									
Dividends declared	-	-	-	-	-	(174,355)	-	-	(174,355)
Noncontrolling investors, net	-	-	-	-	-	-	-	(2)	(2)
Share repurchases	(13,129)	13,129	-	(523,569)	-	-	-	-	(523,569)
Equity-based compensation	1,004	(185)	1	4,623	18,514	(397)	-	-	22,741
Net income (loss)	-	-	-	-	-	1,258,379	-	(2,574)	1,255,805
Other comprehensive income, net of tax	-	-	-	-	-	-	301	-	301
Balances at December 31, 2018	225,272	40,550	\$ 645	\$ (1,184,243)	\$ 1,160,048	\$ 3,958,320	\$ 301	\$ (159,082)	\$ 3,775,989

See notes to consolidated financial statements.

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STEEL DYNAMICS, INC.

CONSOLIDATED STATEMENTS OF CASH FLOWS

(in thousands)

	Years Ended December 31,		
	2018	2017	2016
Operating activities:			
Net income	\$ 1,255,805	\$ 805,796	\$ 360,006
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	317,198	298,999	296,109
Asset impairment charge	-	-	132,839
Equity-based compensation	43,317	36,197	31,656
Deferred income taxes	61,827	(135,899)	53,846
Other adjustments	(1,245)	14,068	20,676
Changes in certain assets and liabilities:			
Accounts receivable	(145,873)	(139,054)	(106,617)
Inventories	(246,213)	(242,883)	(115,575)
Other assets	(3,475)	4,002	12,044
Accounts payable	37,904	96,062	106,521
Income taxes receivable/payable	26,471	(33,889)	(13,921)
Accrued expenses	69,753	36,021	75,176
Net cash provided by operating activities	1,415,469	739,420	852,760
Investing activities:			
Purchases of property, plant and equipment	(239,390)	(164,935)	(198,160)
Purchases of short-term investments	(268,783)	-	-
Proceeds from maturities of short term investments	40,000	-	-
Acquisition of business, net of cash acquired	(433,998)	(6,192)	(123,351)
Other investing activities	6,907	32,022	8,618
Net cash used in investing activities	(895,264)	(139,105)	(312,893)
Financing activities:			
Issuance of current and long-term debt	445,607	620,041	473,903
Repayment of current and long-term debt	(455,491)	(609,914)	(728,993)
Dividends paid	(168,913)	(145,565)	(135,767)
Purchases of treasury stock	(523,569)	(252,242)	(25,034)

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Other financing activities	(18,501)	(25,655)	(9,534)
Net cash used in financing activities	(720,867)	(413,335)	(425,425)
Increase (decrease) in cash and equivalents, and restricted cash	(200,662)	186,980	114,442
Cash and equivalents, and restricted cash at beginning of period	1,035,085	848,105	733,663
Cash and equivalents, and restricted cash at end of period	\$ 834,423	\$ 1,035,085	\$ 848,105
Supplemental disclosure information:			
Cash paid for interest	\$ 124,034	\$ 135,381	\$ 150,679
Cash paid for income taxes, net	\$ 288,429	\$ 296,493	\$ 159,950

See notes to consolidated financial statements.

STEEL DYNAMICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Note 1. Description of the Business and Summary of Significant Accounting Policies

Description of the Business

Steel Dynamics, Inc. (SDI), together with its subsidiaries (the company), is a domestic manufacturer of steel products and metals recycler. The company has three reporting segments: steel operations, metals recycling operations, and steel fabrication operations. Approximately 9% of the company's workforce in six locations is represented by collective bargaining agreements, none of which expire during 2019.

Steel Operations Segment

Steel operations include the company's Butler Flat Roll Division, Columbus Flat Roll Division, The Techs galvanizing lines, Heartland Flat Roll Division – acquired June 29, 2018, Structural and Rail Division, Engineered Bar Products Division, Vulcan Threaded Products, Inc. (Vulcan), Roanoke Bar Division, Steel of West Virginia, and Iron Dynamics (IDI), a liquid pig iron (scrap substitute) production facility that supplies solely the Butler Flat Roll Division. These operations include electric arc furnace steel mills, producing steel from ferrous scrap and scrap substitutes, utilizing continuous casting, automated rolling mills, with several downstream coating and bar processing lines. Steel operations accounted for 75% of the company's consolidated net sales during 2018, and 72% during 2017 and 2016.

Metals Recycling Operations Segment

Metals recycling operations consists solely of OmniSource Corporation (OmniSource), and includes both ferrous and nonferrous processing, transportation, marketing, brokerage, and scrap management services. Metals recycling operations accounted for 13% of the company's consolidated net sales during 2018 and 15% during 2017 and 2016.

Steel Fabrication Operations Segment

Steel fabrication operations include the company's New Millennium Building Systems' joist and deck plants located throughout the United States, and in Northern Mexico. Revenues from these plants are generated from the fabrication of trusses, girders, steel joists and steel deck used within the non-residential construction industry. Steel fabrication operations accounted for 8% of the company's consolidated net sales during 2018, and 9% during 2017 and 2016.

Other

Other operations consist of subsidiary operations that are below the quantitative thresholds required for reportable segments and primarily consist of smaller joint ventures, and the Minnesota ironmaking operations that have been idle since May 2015. Also included in "Other" are certain unallocated corporate accounts, such as the company's senior secured credit facility, senior notes, certain other investments and certain profit sharing expenses.

The idle Minnesota ironmaking operations consist of Mesabi Nugget, (owned 84% by SDI); the company's wholly-owned iron concentrate and potential iron mining operations, Mesabi Mining; and the company's

wholly-owned (as of December 31, 2016) iron tailings operations, Mining Resources. As of December 31, 2016, the company acquired all \$15.1 million of the Mining Resources noncontrolling investor's redeemable noncontrolling units for cancellation and discharge of all obligations owed to Mining Resources and termination of all existing agreements with the noncontrolling investor. Prior to this transaction, the company owned 82% of Mining Resources.

Summary of Significant Accounting Policies

Principles of Consolidation

The consolidated financial statements include the accounts of SDI, together with its wholly- and majority-owned or controlled subsidiaries, after elimination of intercompany accounts and transactions. Noncontrolling interests represent the noncontrolling owner's proportionate share in the equity, income, or losses of the company's majority-owned or controlled consolidated subsidiaries.

Use of Estimates

These consolidated financial statements are prepared in conformity with accounting principles generally accepted in the United States, and accordingly, include amounts that require management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and in the notes thereto. Significant items subject to such estimates and assumptions include the carrying value of property, plant and equipment, intangible assets, and goodwill; valuation allowances for trade receivables, inventories and deferred income tax assets; unrecognized tax benefits; potential environmental liabilities; and litigation claims and settlements. Actual results may differ from these estimates and assumptions.

STEEL DYNAMICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Note 1. Description of the Business and Summary of Significant Accounting Policies (Continued)

Revenue from Contracts with Customers

The company adopted ASC 606 effective January 1, 2018, using the modified retrospective approach. We applied the standard to contracts that were not completed as of the adoption date, with no cumulative effect adjustment at date of adoption. Accordingly, amounts and disclosures for reporting periods beginning after January 1, 2018, are presented under ASC 606, while comparative amounts and disclosures for prior periods have not been adjusted and continue to be reported in accordance with historical accounting policies for revenue recognition prior to the adoption of ASC 606.

In the steel and metals recycling operations segments, revenue is recognized at the point in time the performance obligation is satisfied, and control of the product is transferred to the customer upon shipment or delivery, at the amount of consideration the company expects to receive, including any variable consideration. The variable consideration included in the company's steel operations segment contracts, which is not constrained, include estimated product returns and customer claims based on historical experience, and may include volume rebates which are

recorded on an expected value basis. Revenue recognized is limited to the amount the company expects to receive. The company does not exercise significant judgements in determining the timing of satisfaction of performance obligations or the transaction price. Shipment of products to customers is considered a fulfillment activity with amounts billed to customers included in sales and costs associated with such included in cost of goods sold.

The company's steel fabrication operations segment recognizes revenue over time at the amount of consideration the company expects to receive. Revenue is measured on an output method representing completed fabricated tons to date as a percentage of total tons required for each contract. Revenue from fabrication of tons remaining on partially fabricated customer contracts as of a reporting date, and revenue from yet to be fabricated customer contracts, has not been disclosed under the practical expedient in paragraph ASC 606-10-50-14 related to customer contracts with expected duration of one year or less. The company does not exercise significant judgements in determining the timing of satisfaction of performance obligations or the transaction price. Shipment of products to customers, which occurs after control over the product has transferred to the customer and revenue is recognized, is considered a fulfillment activity with amounts billed to customers included in sales and costs associated with such included in cost of goods sold.

Payments from customers for all operating segments are generally due within 30 days of invoicing, which generally occurs upon shipment of the products. Shipment for the steel fabrication operations segment generally occurs within 30 days of satisfaction of the performance obligation and revenue recognition. The company does not have financing components. Payments from customers have historically generally been within these terms, however, payments for non-US sales may extend longer. The allowance for doubtful accounts for all operating segments is based on the

company's best estimate of known credit risks, historical experience, and current economic conditions affecting the company's customers. Customer accounts receivable are charged off when all collection efforts have been exhausted and the amounts are deemed uncollectible.

Refer to Note 13. Segment Information, for disaggregated revenue by segment to external, external non-United States, and other segment customers.

Cash and Equivalents

Cash and equivalents include all highly liquid investments with a maturity of three months or less at the date of acquisition. Restricted cash is primarily funds held in escrow as required by various insurance and government organizations.

Short-term Investments

The company's short-term investments were \$228.8 million as of December 31, 2018. The short-term investments held as of December 31, 2018, consisted of certificate of deposits (\$130.0 million), commercial paper (\$59.2 million), and US Treasuries (\$39.6 million), with contractual maturities of less than one year, when purchased. The short-term investments are classified as trading securities, and interest income is recorded as earned. The unrealized losses on short-term investments were \$32,000 as of and for the year ended December 31, 2018.

Inventories

Inventories are stated at lower of cost or net realizable value. Cost is determined using a weighted average cost method for raw materials and supplies, and on a first-in, first-out basis for other inventory. Inventory consisted of the following at December 31 (in thousands):

	2018	2017
Raw materials	\$ 810,766	\$ 675,715
Supplies	436,828	374,515
Work in progress	195,224	128,565
Finished goods	416,350	340,552
Total inventories	\$ 1,859,168	\$ 1,519,347

STEEL DYNAMICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Note 1. Description of the Business and Summary of Significant Accounting Policies (Continued)

Property, Plant and Equipment

Property, plant and equipment are stated at cost, except for assets acquired in acquisitions which are valued at fair value, which includes capitalized interest on construction in progress amounts, and is reduced by proceeds received from certain state and local government grants and other capital cost reimbursements. The company assigns each fixed asset a useful life ranging from 3 to 20 years for plant, machinery and equipment, and 10 to 40 years for buildings and improvements. Repairs and maintenance are expensed as incurred. Depreciation is provided utilizing the straight-line depreciation methodology, or the units-of-production depreciation methodology for certain production-related assets, based on units produced, subject to a minimum and maximum level. Depreciation expense was \$283.3 million, \$263.7 million, and \$260.6 million for the years ended December 31, 2018, 2017, and 2016, respectively. Refer to Impairment of Long-Lived Tangible and Definite-Lived Intangible Assets below in Note 1 for discussions regarding the impairments of various property, plant and equipment in 2016.

The company's property, plant and equipment consisted of the following at December 31 (in thousands):

	2018	2017
Land and improvements	\$ 331,926	\$ 314,854
Buildings and improvements	778,701	723,504
Plant, machinery and equipment	4,416,212	4,035,717
Construction in progress	158,131	91,433
	5,684,970	5,165,508
Less accumulated depreciation	2,739,203	2,489,604
Property, plant and equipment, net	\$ 2,945,767	\$ 2,675,904

Intangible Assets

The company's intangible assets consisted of the following at December 31 (in thousands):

	2018	2017	Useful Life	Weighted Average Amortization Period
Customer and scrap generator relationships	\$ 435,262	\$ 394,062	5 to 25 years	21 years

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Trade names	127,350	130,550	15 to 25 years	19 years
Other	2,165	2,165	3 to 5 years	4 years
	564,777	526,777		20 years
Less accumulated amortization	294,449	269,868		
	\$ 270,328	\$ 256,909		

STEEL DYNAMICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Note 1. Description of the Business and Summary of Significant Accounting Policies (Continued)

The company utilizes an accelerated amortization methodology for customer and scrap generator relationships in order to follow the pattern in which the economic benefits of the amounts are anticipated to be consumed. Trade names are amortized using a straight-line methodology. Amortization of intangible assets was \$27.8 million, \$29.2 million, and \$28.8 million for the years ended December 31, 2018, 2017, and 2016, respectively. Estimated amortization expense related to amortizable intangibles for the years ending December 31 is as follows (in thousands):

2019	\$ 28,345
2020	26,829
2021	24,656
2022	22,723
2023	20,803
Thereafter	146,972
Total	\$ 270,328

Impairment of Long-Lived Tangible and Definite Lived Intangible Assets

The company reviews long-lived assets for impairment whenever events or changes in circumstances indicate the carrying amount of such assets may not be fully recoverable. Impairment losses are recorded on long-lived assets used in operations when indicators of impairment are present and the undiscounted cash flows estimated to be generated by those assets are less than the assets' carrying amounts. The impairment loss is measured by comparing the fair value of the assets to its carrying amount. The company considers various factors and determines whether an impairment test is necessary, including by way of examples, a significant and prolonged deterioration in operating results and/or projected cash flows, significant changes in the extent or manner in which an asset is used, technological advances with respect to assets which would potentially render them obsolete, our strategy and capital planning, and the economic climate in markets to be served.

A long-lived asset is classified as held for sale upon meeting specified criteria related to ability and intent to sell. An asset classified as held for sale is measured at the lower of its carrying amount or fair value less cost to sell. As of December 31, 2018, and 2017, the company reported \$8.3 and \$8.7 million, respectively, of assets held for sale within other current assets in our consolidated balance sheet. An impairment loss is recognized for any initial or subsequent write-down of the asset held for sale to its fair value less cost to sell. For assets determined to be classified as held for sale in the years ended December 31, 2018 and 2017, the asset carrying amounts approximated their fair value less cost to sell.

Significant events occurred during the fourth quarter of 2016, including the previously noted termination of all existing agreements with the Mining Resources noncontrolling investor, that represented impairment indicators related primarily to Mining Resources and Mesabi Mining fixed assets within our Minnesota ironmaking operations. The company, therefore, undertook a fourth quarter 2016 assessment of the recoverability of the carrying amounts of primarily our Mining Resources and Mesabi Mining operation's fixed assets. With the company's outlook at the time of this 2016 assessment regarding future cash flows, the company concluded that the carrying amounts of the fixed assets were no longer fully recoverable, and they were, in fact, impaired. This 2016 assessment resulted in a non-cash asset impairment charge of \$127.3 million, including amounts attributable to noncontrolling interests of \$13.1 million, which reduced net income attributable to Steel Dynamics, Inc. by \$72.9 million for the year ended December 31, 2016. The carrying values of the impaired assets were adjusted to their estimated fair values at that time as determined primarily on the cost approach, as well as expected future discounted cash flows (an income approach), using Level 3 fair value inputs as provided for under ASC 820.

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STEEL DYNAMICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Note 1. Description of the Business and Summary of Significant Accounting Policies (Continued)

Goodwill

The company's goodwill consisted of the following reporting units at December 31 (in thousands):

	2018	2017
Steel Operations Segment		
Columbus Flat Roll Division	\$ 19,682	\$ 19,682
The Techs	142,783	142,783
Heartland Flat Roll Division	46,143	-
Vulcan Threaded Products	7,824	7,824
Roanoke Bar Division	29,041	29,041
Metals Recycling Operations Segment – OmniSource	182,247	185,638
Steel Fabrication Operations Segment – New Millennium Building Systems	1,925	1,925
	\$ 429,645	\$ 386,893

OmniSource goodwill decreased \$3.4 million in 2018 in recognition of the 2018 tax benefit related to the normal amortization of the component of OmniSource tax-deductible goodwill in excess of book goodwill. Cumulative OmniSource goodwill impairment charges were \$346.8 million at December 31, 2018 and 2017. In 2016, a \$5.5 million OmniSource goodwill impairment charge was recorded in conjunction with OmniSource entering into a definitive sale agreement with a third-party pertaining to certain OmniSource long-lived assets, inventory and spare parts, as provided under ASC 350.

Impairment of Goodwill

At least once annually (as of October 1) or when indicators of impairment exist, the company performs an impairment test for goodwill. Goodwill is allocated to various reporting units, which are generally one level below the company's operating segments. The company has utilized a two-step approach to evaluate goodwill impairment. The first step of the test determines if there is potential goodwill impairment. In this step, the company compares the fair value of the reporting unit to its carrying amount (which includes goodwill). The fair value of the reporting unit is determined by using an estimate of future cash flows utilizing a risk-adjusted discount rate to calculate the net present value of future cash flows (income approach), and by using a market approach based upon an analysis of valuation metrics of comparable peer companies, using Level 3 fair value inputs as provided for under ASC 820. If the fair value exceeds the carrying value, there is no impairment. If the carrying amount exceeds the fair value, the company performs the second step of the test, which measures the amount of impairment loss to be recorded. In the second step, the company compares the carrying amount of the goodwill to the implied fair value of the goodwill based on the net fair value of the recognized and unrecognized assets and liabilities of the reporting unit to which it is allocated. If the implied fair value is less than the carrying value, an impairment loss is recorded to the extent that the fair value of the goodwill is less than its carrying value. No impairment was identified during the company's 2018, 2017 and 2016 annual goodwill impairment analysis.

Equity Based Compensation

The company has several stock based employee compensation plans which are more fully described in Note 6. Equity-Based Incentive Plans. Compensation expense for restricted stock units, deferred stock units, restricted stock, and performance awards is recorded over the vesting periods using the fair value as determined by the closing fair market value of the company's common stock on the grant date, and with respect to performance awards, an estimate of probability of award achievement during the performance period. The company recognizes forfeitures as they occur. Compensation expense for these stock based employee compensation plans was \$38.7 million, \$36.6 million, and \$30.4 million for the years ended December 31, 2018, 2017, and 2016, respectively.

Income Taxes

The company accounts for income taxes and the related accounts under the liability method. Deferred tax liabilities and assets are determined based on the difference between the financial statement and tax bases of assets and liabilities using enacted rates expected to be in effect during the year in which the basis differences reverse.

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STEEL DYNAMICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Note 1. Description of the Business and Summary of Significant Accounting Policies (Continued)

Earnings Per Share

Basic earnings per share is based on the weighted average shares of common stock outstanding during the period. Diluted earnings per share assumes the weighted average dilutive effect of common share equivalents outstanding during the period applied to the company's basic earnings per share. Common share equivalents represent potentially dilutive restricted stock units, deferred stock units, restricted stock, and performance awards, and are excluded from the computation in periods in which they have an anti-dilutive effect. There were no anti-dilutive common stock equivalents as of and for the years ended December 31, 2018, 2017, and 2016.

The following table presents a reconciliation of the numerators and the denominators of the company's basic and diluted earnings per share computations for the years ended December 31 (in thousands, except per share data):

	2018			2017		
	Net Income (Numerator)	Shares (Denominator)	Per Share Amount	Net Income (Numerator)	Shares (Denominator)	Per Share Amount
Basic earnings per share	\$ 1,258,379	233,923	\$ 5.38	\$ 812,741	240,132	\$ 3.38
Dilutive common share equivalents	-	1,270		-	1,649	
Diluted earnings per share	\$ 1,258,379	235,193	\$ 5.35	\$ 812,741	241,781	\$ 3.36

	2016		
	Net Income (Numerator)	Shares (Denominator)	Per Share Amount
Basic earnings per share	\$ 382,115	243,576	\$ 1.57
Dilutive common share equivalents	-	1,722	
Diluted earnings per share	\$ 382,115	245,298	\$ 1.56

Concentration of Credit Risk

Financial instruments that potentially subject the company to significant concentrations of credit risk principally consist of temporary cash investments, short-term investments, and accounts receivable. The company places its temporary cash and short-term investments with high credit quality financial institutions and companies and limits the

amount of credit exposure from any one entity. The company is exposed to credit risk in the event of nonpayment by customers. The company mitigates its exposure to credit risk, which it generally extends initially on an unsecured basis, by performing ongoing credit evaluations and taking further action if necessary, such as requiring letters of credit or other security interests to support the customer receivable.

Derivative Financial Instruments

The company recognizes all derivatives as either assets or liabilities in the consolidated balance sheets and measures those instruments at fair value. Derivatives that are not designated as hedges must be adjusted to fair value through earnings. Changes in the fair value of derivatives that are designated as hedges, depending on the nature of the hedge, are recognized as either an offset against the change in fair value of the hedged balance sheet item in the case of fair value hedges or as other comprehensive income in the case of cash flow hedges, until the hedged item is recognized in earnings. The ineffective portion of a derivative's change in fair value is immediately recognized in earnings. The company offsets fair value amounts recognized for derivative instruments executed with the same counterparty under master netting agreements.

In the normal course of business, the company has derivative financial instruments in the form of forward contracts in various metallic commodities, may have involvement with derivative financial instruments related to managing fluctuations in foreign exchange rates, and in the past has had derivative financial instruments related to managing fluctuations in interest rates. At the time of acquiring these financial instruments, the company designates and assigns these instruments as hedges of specific assets, liabilities or anticipated transactions. When hedged assets or liabilities are sold or extinguished, or the anticipated transaction being hedged is no longer expected to occur, the company recognizes the gain or loss on the designated hedged financial instrument.

The company routinely enters into forward exchange traded futures and option contracts to manage price risk associated with nonferrous metal inventory, as well as purchases and sales of nonferrous and ferrous metals (primarily aluminum and copper), to reduce exposure to commodity related price fluctuations. The company does not enter into these derivative financial instruments for speculative purposes.

STEEL DYNAMICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Note 1. Description of the Business and Summary of Significant Accounting Policies (Continued)

Recently Adopted/Issued Accounting Standards

In November 2016, the FASB issued ASU 2016-18, Statement of Cash Flows (Topic 230); which requires amounts generally described as restricted cash to be included with cash and cash equivalents when reconciling the total beginning and ending amounts for the periods shown on the statement of cash flows. The company adopted the provisions of ASU 2016-18 as of January 1, 2018, retrospectively, and changed beginning and ending amounts reflected in the consolidated statements of cash flows for the years ended December 31, 2017, 2016 and 2015, to include restricted cash. The balance of cash, cash equivalents and restricted cash in the consolidated statements of cash flows includes restricted cash of \$6.2 million, \$6.4 million, \$6.6 million, and \$6.6 million at December 31, 2018, 2017, 2016, and 2015, respectively, which are recorded in Other Assets (noncurrent) in the company's consolidated balance sheets.

In February 2016, the FASB issued ASU 2016-02, Leases (Topic 842) and its subsequent corresponding updates; which establishes a new lease accounting model that requires lessees to recognize a right of use asset and related lease liability for most leases having lease terms of more than 12 months (ASU 2016-02). The company is substantially complete with our adoption plan to evaluate our lease portfolio, implement a lease software solution, and update business processes and controls necessary to meet the new accounting and disclosure requirements. This new guidance is effective for annual and interim periods beginning after December 15, 2018. The company will adopt ASU 2016-02 effective January 1, 2019, using the optional transition method, thereby applying the new guidance at the effective date, without adjusting the comparative periods and, if necessary, recognizing a cumulative-effect adjustment to the opening balance of retained earnings. The company is electing the package of practical expedients to not reassess prior conclusions related to contracts containing leases, lease classification and initial direct costs. Based on our lease portfolio, we currently anticipate recognizing a lease liability and related right-of-use asset on our balance sheet of approximately \$74 million to \$79 million, with an immaterial impact to retained earnings, operations, or cash flows.

In January 2017, the FASB issued ASU 2017-04: "Intangibles – Goodwill and Other (Topic 350) – Simplifying the Test for Goodwill Impairment." This ASU eliminates the second step in the goodwill impairment test which requires an entity to determine the implied fair value of the reporting unit's goodwill. Instead, an entity should recognize an impairment loss if the carrying value of the net assets assigned to the reporting unit exceeds the fair value of the reporting unit, with the impairment loss not to exceed the amount of goodwill allocated to the reporting unit. ASU 2017-04 is effective for annual and interim goodwill impairment tests conducted in fiscal years beginning after December 15, 2019, with early adoption permitted. The Company is currently evaluating the impact and timing of adopting ASU 2017-04 on its consolidated financial statements.

Note 2. Acquisitions

Subsequent Event – United Steel Supply

On February 1, 2019, the company entered into a definitive agreement to acquire a majority of the equity interest of United Steel Supply, LLC (USS). USS is headquartered in Austin, Texas, and is a leading distributor of painted Galvalume® flat roll steel used for roofing and siding applications. The company has agreed to purchase 75% of the equity interests of USS for \$134 million, comprised of cash consideration of \$92 million and the assumption of \$42 million in apportioned debt. The purchase price assumes total net working capital of \$59 million, which is subject to customary post-closing adjustments. Additionally, the company has an option to purchase the remaining 25 percent equity interest of USS in the future. The transaction is subject to customary closing conditions and will close after receipt of regulatory approval, which was recently received. The company plans to fund the acquisition from available cash.

Heartland

On June 29, 2018, the company completed its acquisition of 100% of Heartland Steel Processing, LLC (formerly known as Companhia Siderurgica Nacional, LLC) (Heartland), for an initial cash purchase price of \$396.4 million, plus a customary working capital transaction purchase price adjustment of \$37.6 million, which was paid in September 2018. Located in Terre Haute, Indiana, Heartland produces various types of higher-margin, flat roll steel by further processing hot roll coils into pickle and oil, cold roll, and galvanized products. The acquisition expanded the company's annual flat roll steel shipping capacity of lighter-gauge and greater width flat roll steel offerings that broadens and diversifies the company's value-added product portfolio and provides operational and logistics benefits to other nearby operations. Heartland's post-acquisition operating results are reflected in the company's financial statements in the steel operations reporting segment.

STEEL DYNAMICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Note 2. Acquisitions (Continued)

The aggregate purchase price was allocated to the opening balance sheet of Heartland as of the June 29, 2018, acquisition date based on the company's valuation of the fair value of the acquired assets, liabilities, and identifiable intangible assets (in thousands).

	As Initially Reported	Measurement Period Adjustments	As Adjusted
Current assets, net of cash acquired	\$ 127,005	\$ (3,562)	\$ 123,443
Property, plant & equipment	266,891	52,845	319,736
Intangible assets	-	41,200	41,200
Goodwill	123,077	(76,934)	46,143
Total assets acquired	516,973	13,549	530,522
Liabilities	74,913	21,611	96,524
Net assets acquired	\$ 442,060	\$ (8,062)	\$ 433,998

The fair values of inventory were determined on the market approach, property, plant and equipment on the market and cost approaches, and identifiable intangible assets on the multi-period excess earnings method (an income approach). The company utilized a third party valuation firm to assist in the determination of fair value of property, plant & equipment and customer relationships. The company has determined that nonrecurring fair value measurements related to certain assets acquired rely primarily on company-specific inputs and the company's assumptions about the use of the assets, as observable inputs, which are not available, and as such, reside within Level 3 as provided for under ASC 820.

Upon receipt of the final valuation report from a third-party valuation firm during the fourth quarter 2018, the company's fair value of the customer relationship intangible asset amounted to \$41.2 million, and \$870,000 of amortization expense was recorded for the period since the acquisition date. The company's fair value of property plant and equipment amounted to \$319.7 million. Upon the working capital settlement and other valuation changes, there were changes to the initially reported amounts for current assets and liabilities, and net assets acquired, resulting in a decrease in goodwill to the final amount of \$46.1 million.

Goodwill recognized from the acquisition primarily relates to the expected contributions of Heartland to the overall company strategy in addition to the acquired workforce, which are not separable from goodwill. The goodwill is not deductible for tax purposes. The identifiable intangible assets related to the acquisition consisted of customer relationships, with an estimated useful life of 15 years.

The company utilizes an accelerated amortization method so as to follow the pattern in which the economic benefits of the intangible asset is anticipated to be consumed. The related customer relationships intangible asset aggregate amortization expense recognized for the year ended December 31, 2018 was \$870,000; and the estimated customer relationships intangible asset amortization expense for the next five years, and thereafter is: 2019 - \$3.6 million, 2020 - \$4.2 million, 2021 - \$3.8 million, 2022 - \$3.5 million, 2023 - \$3.2 million, and thereafter - \$22.0 million.

Vulcan Threaded Products, Inc.

In August 2016, the company acquired 100% of Vulcan in Pelham, Alabama, for \$113.0 million in cash from available funds. Vulcan is the nation's largest manufacturer and supplier of threaded rod products, and also produces cold drawn and heat treated bar. The acquisition of Vulcan is consistent with one of our target growth objectives – higher-margin downstream business opportunities that utilize our steel products in their manufacturing processes. Vulcan utilizes special-bar-quality products produced at our Engineered Bar Products Division. Post-closing operating results of Vulcan are reflected in the steel operations reporting segment.

STEEL DYNAMICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Note 3. Long-Term Debt

The company's borrowings consisted of the following at December 31 (in thousands):

	2018	2017
5.125% senior notes due 2021	\$ 700,000	\$ 700,000
5 1/4% senior notes due 2023	400,000	400,000
5.500% senior notes due 2024	500,000	500,000
4.125% senior notes due 2025	350,000	350,000
5.000% senior notes due 2026	400,000	400,000
Other obligations	51,393	58,852
Total debt	2,401,393	2,408,852
Less debt issuance costs	24,670	26,912
Total amounts outstanding	2,376,723	2,381,940
Less current maturities	24,234	28,795
Long-term debt	\$ 2,352,489	\$ 2,353,145

Financing Activity

In September 2017, the company issued \$350.0 million of 4.125% senior notes due 2025 (the "2025 Notes"), the proceeds of which, along with available cash, were used to fund the September 2017 tender offer to purchase at a redemption price of 103.563% a total of \$182.9 million principal amount, plus accrued and unpaid interest to, but not including, the date of repurchase, of the company's 6.375% senior notes due 2022 (the "2022 Notes"), and the October 2017 call and repayment at a redemption price of 103.188% of the \$167.1 million remaining outstanding principal amount of the 2022 Notes, plus accrued and unpaid interest to, but not including, the date of repayment. The company recorded expenses related to tender and call premiums, write off of unamortized debt issuance costs, and other expenses of \$14.6 million, which are reflected in other expenses in the consolidated statements of operations for the year ended December 31, 2017.

In December 2016, the company issued \$400.0 million of 5.000% senior notes due 2026 (the "2026 Notes"), the proceeds of which, along with available cash, were used to fund the December 2016 tender offer to purchase at a redemption price of 103.388% a total of \$266.3 million principal amount, plus accrued and unpaid interest to, but not including, the date of repurchase, of the company's 6.125% senior notes due 2019 (the "2019 Notes"), and the December 2016 call and repayment at a redemption price of 103.063% of the \$133.7 million remaining outstanding principal amount of the 2016 Notes plus accrued and unpaid interest to, but not including, the date of repayment. In addition, the company repaid the remaining \$228.1 million of outstanding senior secured term loan debt with available cash in December 2016, which was set to mature in November 2019. The company recorded expenses related to tender and call premiums, write off of unamortized debt issuance costs, and other expenses of \$16.5 million, which are reflected in other expenses in the consolidated statement of operations for the year ended December 31, 2016.

Senior Secured Credit Facility, due 2023

The company's senior secured credit facility (Facility), which provides a \$1.2 billion Revolver, was renewed and extended in June 2018 to extend maturity to June 2023. Subject to certain conditions, the company has the opportunity to increase the Revolver size by at least \$750.0 million. The Facility is guaranteed by certain of the company's subsidiaries; and is secured by substantially all of the company's and its wholly-owned subsidiaries' receivables and inventories, and by pledges of all shares of its wholly-owned subsidiaries' capital stock or other equity interests, and intercompany debt held by the company as collateral. The Revolver is available to fund working capital, capital expenditures, and other general corporate purposes. The Facility contains financial covenants and other covenants pertaining to the company's ability (which may under certain circumstances be limited) to make capital expenditures; incur indebtedness; permit liens on property; enter into transactions with affiliates; make restricted payments or investments; enter into mergers, acquisitions or consolidations; conduct asset sales; pay dividends or distributions, or enter into other specified transactions and activities. The company's ability to borrow funds within the terms of the Revolver is dependent upon its continued compliance with the financial and other covenants. At December 31, 2018, the company had \$1.2 billion of availability on the Revolver, \$12.0 million of outstanding letters of credit and other obligations which reduce availability, and there were no borrowings outstanding.

The Facility pricing grid is adjusted quarterly and is based on the company's leverage of net debt (as defined in the Facility) to last-twelve-months (LTM) consolidated adjusted EBITDA (earnings before interest, taxes, depreciation, amortization, and certain other non-cash items as allowed in the Facility). The minimum pricing is LIBOR plus 1.00% or Prime, and the maximum pricing is LIBOR plus 2.00% or Prime plus 1.00%. In addition, the company is subject to an unused commitment fee of between 0.225% and 0.375% (based on leverage of net debt to LTM consolidated adjusted EBITDA) which is applied to the unused portion of the Revolver each quarter.

STEEL DYNAMICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Note 3. Long-Term Debt (Continued)

The financial covenants under the Facility state that the company must maintain an interest coverage ratio of not less than 2.50:1.00. The company's interest coverage ratio is calculated by dividing its last-twelve-months (LTM) consolidated adjusted EBITDA by its LTM gross interest expense, less amortization of financing fees. In addition, a net debt (as defined in the Facility) to LTM consolidated adjusted EBITDA (net debt leverage ratio) of not more than 5.00:1.00 must be maintained. If the net debt leverage ratio exceeds 3.50:1.00 at any time, the company's ability to make certain payments as defined in the Facility (which includes cash dividends to stockholders and share purchases, among other things), is limited. At December 31, 2018, the company's interest coverage ratio and net debt leverage ratio were 16.88:1.00 and 0.85:1.00, respectively. The company was, therefore, in compliance with these covenants at December 31, 2018, and anticipates remaining in compliance during the next twelve months.

Senior Unsecured Notes

The company has five different tranches of senior unsecured notes (Notes) outstanding. These Notes are in equal right of payment with all existing and future senior unsecured indebtedness and are senior in right of payment to all subordinated indebtedness. These Notes contain provisions that allow the company to redeem the senior notes on or after the dates and at redemption prices (expressed as a percentage of principal amount) listed below. Additionally, these Notes generally allow the company to redeem some or all of the Notes by paying a "make-whole" premium any time prior to the dates listed below. The company may redeem up to 35% of each of the Notes at a redemption price and by the dates listed below using the proceeds from the sales of the company's common stock. See the key terms of each of the Notes outstanding below.

Issue	2021 Notes	2023 Notes	2024 Notes	2025 Notes	2026 Notes
Outstanding Balance	\$700.0 million	\$400.0 million	\$500.0 million	\$350.0 million	\$400.0 million
Stated Interest Rate	5.125%	5 1/4%	5.500%	4.125%	5.000%
Semi-Annual Interest Payment Dates	April 1 and October 1	April 15 and October 15	April 1 and October 1	March 15 and September 15	June 15 and December 15
Equity Redemption Option Price & Date	Date passed	Date passed	Date passed	104.125% September 15, 2020	105.000% December 15, 2019
"Make-Whole" Option Date	Date passed	Date passed	October 1, 2019	September 15, 2020	December 15, 2021
First Call Price & Date	Date passed	Date passed	102.750%	102.063%	102.500%

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			October 1, 2019	September 15, 2020	December 15, 2021
Second Call Price & Date	Date passed	101.750%	101.833%	101.031%	101.667%
		April 15, 2019	October 1, 2020	September 15, 2021	December 15, 2022
Third Call Price & Date	100.000%	100.875%	100.917%	100.000%	100.833%
	October 1, 2019	April 15, 2020	October 1, 2021	September 15, 2022	December 15, 2023
Fourth Call Price & Date	-	100.000%	100.000%	-	100.000%
		April 15, 2021	October 1, 2022		December 15, 2024
Maturity Date	October 1, 2021	April 15, 2023	October 1, 2024	September 15, 2025	December 15, 2026

Other Obligations

Minnesota Economic Development State Secured Loans. Mesabi Nugget has loans from various Minnesota state agencies related to the construction and ultimate operation of Mesabi Nugget. These loans require monthly principal and interest payments at a 5.0% interest rate through maturity in 2027. Amounts due under these loans were \$18.9 million and \$20.6 million at December 31, 2018, and 2017, respectively.

Other Secured Loans. One of the company's controlled subsidiaries entered into financing agreements for certain equipment which bear interest at 6.0%, with monthly principal and interest payments required through maturities in 2027 and 2028. The outstanding principal balance of these agreements was \$8.3 million and \$8.9 million at December 31, 2018, and 2017, respectively.

One of the company's controlled subsidiaries has a secured credit agreement which provides a revolving variable rate credit facility of up to \$40.0 million, subject to a borrowing base determined from eligible accounts receivable and inventory, and other cash flow restrictions, which matures in December 2020. Interest, which was 4.8% at December 31, 2018, is payable monthly. Amounts due under this credit facility were \$19.6 million and \$25.7 million at December 31, 2018, and 2017, respectively.

STEEL DYNAMICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Note 3. Long-Term Debt (Continued)

Unsecured Loans. The company has an unsecured electricity transmission facility loan which bears interest at 8.1%, with monthly principal and interest payments required through maturity in 2022. The company has an unused \$3.0 million stand-by letter of credit in conjunction with this loan. The outstanding principal balance was \$2.8 million and \$3.6 million as of December 31, 2018, and 2017, respectively.

Outstanding Debt Maturities

Maturities of outstanding debt as of December 31, 2018, are as follows (in thousands):

2019	\$ 24,234
2020	3,908
2021	703,708
2022	3,174
2023	403,084
Thereafter	1,263,285
	\$ 2,401,393

The company capitalizes interest on all qualifying construction in progress assets. For the years ended December 31, 2018, 2017, and 2016, total interest costs incurred were \$129.5 million, \$136.1 million, and \$148.5 million, respectively, of which \$2.9 million, \$1.7 million and \$2.5 million, respectively, were capitalized.

Note 4. Income Taxes

The company files a consolidated federal income tax return. The current and deferred federal and state income tax expense (benefit) for the years ended December 31 is as follows (in thousands):

	2018	2017	2016
Current income tax expense	\$ 304,726	\$ 269,387	\$ 153,176
Deferred income tax expense (benefit)	59,243	(139,948)	50,951
Total income tax expense	\$ 363,969	\$ 129,439	\$ 204,127

A reconciliation of the statutory rates to the actual effective tax rates for the years ended December 31 are as follows:

	2018	2017	2016
Statutory federal tax rate	21.0 %	35.0 %	35.0 %
State income taxes, net of federal benefit	2.6	1.4	2.6
Impact from Tax Reform	-	(19.3)	-
Tax benefit of equity compensation	(0.1)	(1.1)	(1.0)
Noncontrolling interests	-	0.3	1.4
Audit settlements	(0.3)	-	-
Domestic manufacturing deduction	-	(2.6)	(2.5)
Other permanent differences	(0.7)	0.1	0.7
Effective tax rate	22.5 %	13.8 %	36.2 %

On December 22, 2017, the President of the United States signed into law the Tax Cuts and Jobs Act of 2017 (the “TCJA Act”) which, among other provisions, reduced the corporate income tax rate from 35% to 21%, effective January 1, 2018. The TCJA Act also included a one-time transition tax related to cumulative foreign earnings, as the United States transitions from a worldwide tax system to a territorial tax system. During the fourth quarter of 2017, the company recorded a \$180.6 million net tax benefit to reflect the impacts of the TCJA Act, including a \$182.5 million tax benefit to revalue its net deferred tax assets and liabilities as of December 31, 2017, using the newly enacted rate, partially offset by tax expense of \$1.9 million related to the transition tax on cumulative foreign earnings.

STEEL DYNAMICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Note 4. Income Taxes (Continued)

Significant components of the company's deferred tax assets and liabilities at December 31 are as follows (in thousands):

	2018	2017
Deferred tax assets		
Accrued expenses and allowances	\$ 19,020	\$ 16,322
Inventories	9,599	4,109
Net operating loss carryforwards	30,109	33,693
Other	7,639	8,074
	66,367	62,198
Less: valuation allowance	(21,788)	(20,714)
Total net deferred tax assets	44,579	41,484
Deferred tax liabilities		
Property, plant and equipment	(455,935)	(344,511)
Intangible Assets	(22,748)	(1,292)
Other	(1,734)	(1,630)
Total deferred tax liabilities	(480,417)	(347,433)
Net deferred tax liability	\$ (435,838)	\$ (305,949)

Certain wholly-owned and controlled subsidiaries of the company file separate federal and state income tax returns. These subsidiaries have generated federal net operating loss carryforwards of \$102.8 million which expire in 2032 to 2037, and state net operating loss carryforwards which principally expire in the years 2024 to 2038. Management has considered the scheduled reversal of the deferred tax liabilities, historical taxable losses, projected taxable income and tax planning strategies in determining that it is more likely than not that some of the deferred tax assets relating to the tax loss carryforwards of the subsidiaries will not be realized. Based on these evaluations, valuation allowances of \$21.8 million and \$20.7 million have been recorded as of December 31, 2018, and 2017, respectively.

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows (in thousands):

	2018	2017	2016
Balance at January 1	\$ 16,749	\$ 19,107	\$ 15,991
Increases related to current year tax positions	500	300	300
Increases related to prior year tax positions	503	271	5,452
Decreases related to prior year tax positions	(798)	(863)	(535)
Settlements with taxing authorities	(6,823)	(2,066)	(2,101)

Balance at December 31	\$ 10,131	\$ 16,749	\$ 19,107
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Included in the balance of unrecognized tax benefits at December 31, 2018, are potential benefits of \$6.0 million that, if recognized, would affect the effective tax rate. The company recognizes interest and penalties related to its tax contingencies on a net-of-tax basis in income tax expense. During the year ended December 31, 2018, the company recognized a benefit from the decrease of interest expense of \$1.3 million, net of tax. In addition to the unrecognized tax benefits in the table above, the company had \$2.4 million accrued for the payment of interest and penalties at December 31, 2018.

It is reasonably possible that the amount of unrecognized tax benefits could change in the next twelve months in an amount ranging from zero to \$5.3 million, as a result of the expiration of the statute of limitations and other federal and state income tax audits. The company files income tax returns in the U.S. federal jurisdiction as well as income tax returns in various state jurisdictions. The company has concluded U.S. federal income tax audits through 2015. The tax years 2016-2017 remain open to examination by the Internal Revenue Service, and tax years 2014-2017 remain open to various state and local jurisdictions.

STEEL DYNAMICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Note 5. Shareholders' Equity

Cash Dividends

The company declared cash dividends of \$174.4 million, or \$0.75 per common share, during 2018; \$148.2 million, or \$0.62 per common share, during 2017; and \$136.5 million, or \$0.56 per common share, during 2016. The company paid cash dividends of \$168.9 million, \$145.6 million and \$135.8 million during 2018, 2017, and 2016, respectively.

Treasury Stock

In 2016, the board of directors authorized a share repurchase program of up to \$450 million of the company's common stock, and in August 2018 an additional share repurchase program of up to \$750 million of the company's common stock. Under the share repurchase programs, purchases will take place, as and when, the company determine in open market or private transactions made based upon the market price of the company's common stock, the nature of other investment opportunities or growth projects, the company's cash flows from operations, and general economic conditions. The share repurchase programs do not require the company to acquire any specific number of shares, and may be modified, suspended, extended or terminated by the company at any time. The company repurchased 13.1 million shares for \$523.6 million during 2018, 7.4 million shares for \$252.2 million during 2017, and 732,000 shares for \$25.0 million during 2016. The company's share repurchases during 2018 completed the 2016 \$450 million program and initiated the 2018 \$750 million program. At December 31, 2018, the company had remaining authorization to repurchase \$399.2 million of additional shares. The share repurchase program does not have an expiration date.

Note 6. Equity Based Incentive Plans

2015 Equity Incentive Plan (2015 Plan)

The 2015 Plan is designed to attract, motivate and retain qualified persons that are able to make important contributions to the company's success. To accomplish these objectives, the 2015 Plan provides for awards of equity based incentives through granting of restricted stock units (RSUs), deferred stock units (DSUs), restricted stock awards, stock options, unrestricted stock awards, stock appreciation rights (SARs), and performance awards, such as long-term incentive compensation program (LTIP). The company's stockholders approved the 2015 Plan in May 2015, and 12.5 million shares of common stock were reserved for issuance upon exercise of equity grants through December 31, 2025. The 2015 Plan uses a fungible share concept under which any awards that are not a full-value award, such as stock options and stock-settled SARs, will be counted against the share limit as one share for each share of common stock, and awards that are full-value awards, such as RSUs, DSUs, restricted and unrestricted stock awards, and performance awards, will be counted against the share limit as 2.09 shares for each share of common stock. The SARs the company has granted to date can only be settled in cash, and thus don't count against the share reserve. At December 31, 2018, there were 3.3 million shares still available for issuance.

Substantially all of the company's employees receive RSUs, which are granted annually in November at no cost to employees, vest 100% over the shorter of two years from grant date or upon the recipient reaching retirement eligible age (59½ years), and the stock is issued to employees upon vesting. The company satisfies RSUs with newly issued shares, and satisfies restricted stock awards, DSUs, and performance awards with treasury shares. In addition to the RSUs and LTIP awards granted during the three year period ended December 31, 2018, presented below, the company

awarded 28,000, 34,000 and 60,000 DSUs in 2018, 2017 and 2016, respectively; and 285,000, 200,000 and 86,000 SARs in 2018, 2017 and 2016, respectively. The 571,000 SAR awards outstanding at December 31,2018, for which no shares of common stock can be issued because the awards must be cash-settled upon exercise, have a weighted-average exercise price of \$39.17.

STEEL DYNAMICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Note 6. Equity Based Incentive Plans (Continued)

Restricted Stock Units

A summary of the company's RSU activity and outstanding RSUs as of December 31, 2018, are presented below (dollars in thousands except grant date fair value):

	Number of RSUs	Weighted Average Grant Date Fair Value	Aggregate Intrinsic Value	Unrecognized Compensation
Outstanding RSUs as of January 1, 2016	2,278,704	\$18.55	\$ 40,720	\$ 27,615
Granted	852,063	32.40		
Vested	(962,828)	22.76		
Forfeited	(139,922)	18.50		
As of December 31, 2016	2,028,017	22.38	\$ 72,157	\$ 29,086
Granted	828,955	36.29		
Vested	(1,364,593)	18.50		
Forfeited	(78,737)	23.52		
As of December 31, 2017	1,413,642	34.22	\$ 60,970	\$ 32,017
Granted	815,761	36.70		
Vested	(817,226)	33.20		
Forfeited	(64,111)	34.51		
As of December 31, 2018 (nonvested)	1,348,066	\$36.32	\$ 40,496	\$ 31,996

The weighted average remaining life before vesting of the outstanding RSUs as of December 31, 2018, is 1.41 years. The fair value of RSUs vesting during 2018, 2017, and 2016 was \$24.5 million, \$58.8 million, and \$34.3 million, respectively, and was net-share settled such that the company withheld shares with value equivalent to the employees' minimum statutory obligation for the applicable income and other employment taxes and remitted the cash to the appropriate taxing authorities. The total shares withheld in 2018, 2017, and 2016 were approximately 268,000, 457,000, and 338,000 shares, respectively, and were based on the value of the RSUs on their vesting dates as determined by the company's closing stock price.

Long-Term Incentive Compensation Program (LTIP)

The company maintains an LTIP performance-based program directed toward key senior executives of the company, as determined at the discretion of the Compensation Committee of the Board of Directors. Awards are in shares of the company's common stock using the stock price on the first day of the performance period to convert each key senior executive's predetermined multiple of annual base salary. The performance period is generally three years; however, certain transition awards were issued in 2017 with shorter performance periods. Performance is measured in terms of equal portions of four growth and profitability measures, as compared to the same measures, similarly treated, of a

pre-established group of steel sector competitors. Awards earned can range from zero to 100% of the shares awarded. The 2018 award shares vest immediately once earned on the basis of performance. For prior awards, once earned on the basis of performance, one-third of the shares vest immediately, and the remaining shares vest in equal annual installments over an additional two-year service-based vesting period requirement. The Compensation Committee granted the following three-year performance period awards, and two-year and one-year performance period transition awards, which have been earned and have or will be issued over the vesting period as follows:

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STEEL DYNAMICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Note 6. Equity Based Incentive Plans (Continued)

	Maximum Shares That Could Be Issued	Award Earned	Award Issued/Issuable	
2013 LTIP Award:				
Three-year performance period award	173,319	149,060	74,179	March 2016
			37,441	March 2017
			37,440	March 2018
2014 LTIP Award:				
Three-year performance period award	204,741	204,741	68,249	March 2017
			68,247	March 2018
			68,245	March 2019
2015 LTIP Award:				
Three-year performance period award	236,434	236,434	78,813	March 2018
			78,812	March 2019
			78,809	March 2020
2016 LTIP Award:				
Three-year performance period award	324,469	324,469	108,158	March 2019
			108,156	March 2020
			108,155	March 2021
2017 LTIP Award:				
Three-year performance period award	182,274	*	*	
Two-year performance period transition award	16,779	15,101	5,034	March 2019
			5,034	March 2020
			5,033	March 2021
One-year performance period transition award	28,379	25,541	8,514	March 2018
			8,514	March 2019
			8,513	March 2020
2018 LTIP Award:				
Three-year performance period award	198,397	*	*	

* Not yet earned as performance period not complete.

2018 Executive Incentive Compensation Plan (2018 Executive Plan)

The company's stockholders approved the 2018 Executive Plan in May 2018, and 2.0 million shares of company stock were reserved for issuance through February 28, 2028, succeeding the 2013 Executive Incentive Compensation Plan upon its expiration on February 28, 2018. Pursuant to the company's 2018 Executive Plan, certain senior management members of the company are eligible to receive cash bonuses based on predetermined formulas. In the event the bonus exceeds the predetermined maximum cash payout, the excess bonus up to a fixed percentage of base salary is distributed in shares of the company's stock, of which one-third of the shares vest immediately and the remaining shares vest in equal annual installments over an additional two-year service-based vesting period requirement. At December 31, 2018, 1.8 million shares under the 2018 Executive Plan remained available for issuance. Pursuant to the 2018 Executive Plan, 157,000 shares were awarded with a market value of \$5.8 million. Pursuant to the preceding 2013 Executive Plan, 117,000 shares were awarded with a market value of \$5.3 million and \$4.0 million for the 2017 and 2016 award years, respectively.

STEEL DYNAMICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Note 7. Derivative Financial Instruments

The company is exposed to certain risks relating to its ongoing business operations. The company utilizes derivative instruments to mitigate commodity margin risk, occasionally to mitigate foreign currency exchange rate risk, and have in the past to mitigate interest rate fluctuation risk. The company routinely enters into forward exchange traded futures and option contracts to manage the price risk associated with nonferrous metals inventory, as well as purchases and sales of nonferrous and ferrous metals (primarily aluminum and copper). The company offsets fair value amounts recognized for derivative instruments executed with the same counterparty under master netting agreements.

Commodity Futures Contracts. If the company is “long” on futures contracts, it means the company has more futures contracts purchased than futures contracts sold for the underlying commodity. If the company is “short” on a futures contract, it means the company has more futures contracts sold than futures contracts purchased for the underlying commodity. The following summarizes the company’s futures contract commitments as of December 31, 2018:

Commodity Futures	Long/Short	Metric Tons
Aluminum	Long	2,575
Aluminum	Short	3,100
Copper	Long	7,201
Copper	Short	14,320

The following summarizes the location and amounts of the fair values reported on the company’s consolidated balance sheets and gains or losses related to derivatives included in the company’s consolidated statements of operations as of and for the years ended December 31 (in thousands):

Balance sheet location	Asset Derivatives Fair Value		Liability Derivatives Fair Value	
	December 31, 2018	December 31, 2017	December 31, 2018	December 31, 2017
Derivative instruments designated as hedges				

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Commodity futures	Other current assets	\$ 2,999	\$ 1,211	\$ 1,837	\$ 5,364
Derivative instruments not designated as hedges					
Commodity futures	Other current assets	1,559	1,579	2,053	5,142
Total derivative instruments		\$ 4,558	\$ 2,790	\$ 3,890	\$ 10,506

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STEEL DYNAMICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Note 7. Derivative Financial Instruments (Continued)

The fair value of the above derivative instruments along with required margin deposit amounts with the same counterparty under master netting agreements totaled \$4.9 million and \$5.6 million at December 31, 2018, and 2017, respectively, and are reflected in other current assets in the consolidated balance sheets.

	Location of gain (loss) recognized in income on derivatives	Amount of gain (loss) recognized in income on derivatives	Hedged items in fair value hedge relationships	Location of gain (loss) recognized in income on related hedged items	Amount of gain (loss) recognized in income on related hedged items
For the Year Ended December 31, 2018					
Derivatives in fair value hedging relationships					
Commodity futures	Costs of goods sold	\$ 4,920	Firm commitments Inventory	Costs of goods sold Costs of goods sold	\$ 582 (2,779)
Derivatives not designated as hedging instruments					\$ (2,197)
Commodity futures	Costs of goods sold	\$ 19,830			

For the Year Ended
December 31, 2017

Derivatives in fair value
hedging relationships

Commodity futures	Costs of goods sold	\$ 5,763	Firm commitments	Costs of goods sold	\$ 1,814
			Inventory	Costs of goods sold	3,008

Derivatives not designated
as hedging instruments

Commodity futures	Costs of goods sold	\$ (18,784)			\$ 4,822
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For the Year Ended
December 31, 2016

Derivatives in fair value
hedging relationships

Commodity futures	Costs of goods sold	\$ 3,596	Firm commitments	Costs of goods sold	\$ (3,901)
			Inventory	Costs of goods sold	(538)

Derivatives not designated
as hedging instruments

Commodity futures	Costs of goods sold	\$ (8,450)			\$ (4,439)
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Derivatives accounted for as fair value hedges had ineffectiveness resulting in gains of \$85,000, and losses of \$3,000 and \$191,000 for the years ended December 31, 2018, 2017, and 2016, respectively. Gains excluded from hedge effectiveness testing of \$2.7 million decreased cost of goods sold for the year ended December 31, 2018. Losses excluded from hedge effectiveness testing of \$938,000 and \$652,000 increased cost of goods sold for the years ended December 31, 2017, and 2016, respectively.

Derivatives accounted for as cash flow hedges resulted in net gains of \$544,000 recognized in other comprehensive income for the year ended December 31, 2018. Net gains of \$149,000 were reclassified from accumulated other comprehensive income into income for the year ended December 31, 2018. At December 31, 2018, the company expects to reclassify \$395,000 of net gains on derivative instruments from accumulated other comprehensive income to earnings during the next 12 months due to the settlement of futures contracts.

STEEL DYNAMICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Note 8. Fair Value Measurements

Accounting standards provide a comprehensive framework for measuring fair value and sets forth a definition of fair value and establishes a hierarchy prioritizing the inputs to valuation techniques, giving the highest priority to quoted prices in active markets for identical assets and liabilities and the lowest priority to unobservable value inputs. Levels within the hierarchy are defined as follows:

- Level 1—Unadjusted quoted prices for identical assets and liabilities in active markets;
- Level 2—Quoted prices for similar assets and liabilities in active markets (other than those included in Level 1) which are observable for the asset or liability, either directly or indirectly; and
- Level 3—Valuations derived from valuation techniques in which one or more significant inputs or significant value drivers are unobservable.

The following table sets forth financial assets and liabilities measured at fair value on a recurring basis in the consolidated balance sheet and the respective levels to which the fair value measurements are classified within the fair value hierarchy as of December 31 (in thousands):

	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
December 31, 2018				
Short-term investments	\$ 228,783	\$ -	\$ 228,783	\$ -
Commodity futures – financial assets	4,558	-	4,558	-
Commodity futures – financial liabilities	3,890	-	3,890	-
December 31, 2017				
Commodity futures – financial assets	\$ 2,790	\$ -	\$ 2,790	\$ -

Commodity futures – financial liabilities	10,506	-	10,506	-
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The carrying amounts of financial instruments including cash and equivalents approximate fair value (Level 1). The fair values of the short-term investments and the commodity futures contracts are estimated by the use of quoted market prices, estimates obtained from brokers, and other appropriate valuation techniques based on references available (Level 2). The fair value of long-term debt, including current maturities, as determined by quoted market prices (Level 2), was approximately \$2.4 billion and \$2.5 billion for December 31, 2018 and 2017 (with a corresponding carrying amount in the consolidated balance sheet of \$2.4 billion at December 31, 2018 and 2017).

Note 9. Commitments and Contingencies

The company has entered into certain commitments with suppliers which are of a customary nature. Commitments have been entered into relating to future expected requirements for such commodities as electricity, natural gas and its transportation services, fuel, air products, zinc, alloys and electrodes. Certain commitments contain provisions which require that the company “take or pay” for specified quantities at fixed prices without regard to actual usage for periods of up to 6 years for physical commodity requirements and commodity transportation requirements, and for up to 14 years for air products. The company utilized such “take or pay” requirements during the past three years under these contracts, except for certain air products at our Minnesota ironmaking operations which have been idle since May 2015. The company believes that production requirements will be such that consumption of the products or services purchased under these commitments will occur in the normal production process, other than certain air products related to Minnesota ironmaking operations during the idle period.

The company’s commitments for these agreements with “take or pay” or other similar commitment provisions for the years ending December 31 are as follows (in thousands):

2019	\$ 349,125
2020	113,636
2021	103,916
2022	95,899
2023	25,281
Thereafter	53,786
	\$ 741,643

STEEL DYNAMICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Note 9. Commitments and Contingencies (Continued)

At December 31, 2018, the company has outstanding commitments of \$155.1 million related to ongoing construction of property, plant, and equipment related primarily to steel operations. The company's commitments for operating leases are discussed in Note 12.

The company is involved in various routine litigation matters, including administrative proceedings, regulatory proceedings, governmental investigations, environmental matters, and commercial and construction contract disputes, none of which are expected to have a material impact on the company's financial condition, results of operations, or liquidity.

Note 10. Transactions with Affiliated Companies

The company purchases and sells recycled and scrap metal with other smaller affiliated companies. These transactions for the years ended December 31, are as follows (in thousands):

	2018	2017	2016
Sales	\$ 20,230	\$ 23,603	\$ 27,305
Accounts receivable	3,536	3,068	5,483
Purchases	244,551	219,975	165,091
Accounts payable	14,011	15,020	12,576

The company sells flat roll products to and occasionally purchases ferrous materials from Heidtman Steel Products (Heidtman). The president and chief executive officer of Heidtman was a member of the company's board of directors through May 2017. Affiliated company transactions with Heidtman for the years ended December 31, are as follows (in thousands):

	2017	2016
Sales	\$ 150,981	\$ 142,624
Percentage of consolidated net sales	2%	2%
Accounts receivable	19,354	20,737
Purchases	10,684	9,017
Accounts payable	663	494

Note 11. Retirement Plans

The company sponsors several 401(k) retirement savings and profit sharing plans (Plans) for eligible employees, which are considered “qualified plans” for federal income tax purposes. The company’s total expense for the Plans was \$156.7 million, \$92.5 million, and \$64.7 million for the years ended December 31, 2018, 2017, and 2016, respectively. The company’s profit sharing component is 8% of consolidated pretax income excluding noncontrolling interests and other items. The resulting company profit sharing component was \$138.7 million, \$80.7 million, and \$59.3 million for the years ended December 31, 2018, 2017, and 2016, respectively; of which \$108.1 million, \$64.5 million, and \$47.5 million, respectively, was directed by the company’s board of directors to be contributed to the Plans, with the remaining amounts each year paid directly in cash to the Plans’ participants.

Note 12. Leases

The company has operating leases relating principally to transportation and other equipment and real estate. Certain leases include escalation clauses and/or purchase options. The company paid \$21.1 million, \$18.9 million, and \$15.1 million for operating leases for the years ended December 31, 2018, 2017, and 2016, respectively. At December 31, 2018, future minimum payments for all non-cancelable operating leases with an initial or remaining term of one year or more are as follows (in thousands):

2019	\$ 18,890
2020	16,724
2021	13,605
2022	10,420
2023	7,453
Thereafter	19,363
	\$ 86,455

STEEL DYNAMICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Note 13. Segment Information

The company's operations are primarily organized and managed by reportable operating segments, which are steel operations, metals recycling operations, and steel fabrication operations. The segment operations are more fully described in Note 1 to the consolidated financial statements. Operating segment performance and resource allocations are primarily based on operating results before income taxes. The accounting policies of the reportable segments are consistent with those described in Note 1. Description of the Business and Summary of Significant Accounting Policies to the consolidated financial statements. Intra segment sales and any related profits are eliminated in consolidation. Amounts included in the category "Other" are from subsidiary operations that are below the quantitative thresholds required for reportable segments and primarily consist of our Minnesota ironmaking operations and several small joint ventures. In addition, "Other" also includes certain unallocated corporate accounts, such as the company's senior secured credit facility, senior notes, certain other investments and certain profit sharing expenses.

The company's segment results are as follows (in thousands):

For The Year Ended December 31, 2018	Steel Operations	Metals Recycling Operations	Steel Fabrication Operations	Other	Eliminations	Consolidated
Net Sales						
External	\$ 8,476,104	\$ 1,295,514	\$ 921,023	\$ 427,372	\$ -	\$ 11,120,013
External Non-United States	444,615	257,086	125	-	-	701,826
Other segments	342,433	1,649,614	803	1,688	(1,994,538)	-
	9,263,152	3,202,214	921,951	429,060	(1,994,538)	11,821,839
Operating income (loss)	1,839,852	75,891	61,901	(253,195)	(1) (2,040)	(2) 1,722,409
Income (loss) before income taxes	1,770,888	69,861	56,236	(275,137)	(2,074)	1,619,774
Depreciation and amortization	248,765	46,015	11,553	10,865	-	317,198
Capital expenditures	189,208	35,518	8,303	6,361	-	239,390
As of December 31, 2018						
Assets	\$ 5,150,298	\$ 946,689	\$ 415,708	\$ 1,283,539	(3) \$ (92,671)	(4) \$ 7,703,563

Footnotes related to the year ended December 31, 2018, segment results (in millions):

		Gross profit decrease from intra-company	
(1) Corporate SG&A	\$ (58.0)	(2) sales	\$ (2.0)
Company-wide equity-based compensation	(36.4)		
Profit sharing	(149.8)		
Other, net	(9.0)		
	\$ (253.2)		
(3) Cash and equivalents	\$ 811.1	(4) Elimination of intercompany receivables	\$ (64.6)
Short-term investments	198.8	Elimination of intra-company debt	(14.0)
Accounts receivable	5.9	Other	(14.1)
Inventories	33.7		\$ (92.7)
Property, plant and equipment, net	153.8		
Intra-company debt	14.0		
Other	66.2		
	\$ 1,283.5		

STEEL DYNAMICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Note 13. Segment Information (Continued)

For The Year Ended December 31, 2017	Steel Operations	Metals Recycling Operations	Steel Fabrication Operations	Other	Eliminations	Consolidated
Net Sales						
External	\$ 6,613,944	\$ 1,204,188	\$ 823,630	\$ 373,212	\$ -	\$ 9,014,974
External Non-United States	317,819	205,853	151	-	-	523,823
Other segments	243,646	1,402,963	644	2,299	(1,649,552)	-
	7,175,409	2,813,004	824,425	375,511	(1,649,552)	9,538,797
Operating income (loss)	1,098,630	71,052	87,295	(190,785) (1)	689 (2)	1,066,881
Income (loss) before income taxes	1,014,863	64,638	81,046	(226,001)	689	935,235
Depreciation and amortization	227,752	48,830	11,507	10,910	-	298,999
Capital expenditures	128,749	25,998	7,506	2,682	-	164,935
As of December 31, 2017						
Assets	\$ 4,257,167	\$ 1,011,298	\$ 384,402	\$ 1,334,361 (3)	\$ (131,496) (4)	\$ 6,855,732

Footnotes related to the year ended December 31, 2017, segment results (in millions):

(1) Corporate SG&A	\$ (49.4)	Gross profit increase from intra-company sales	\$ 0.7
Company-wide equity-based compensation	(36.5)		
Profit sharing	(87.6)		
Minnesota ironmaking operations	(12.8)		
Other, net	(4.5)		
	\$ (190.8)		
(3) Cash and equivalents	\$ 1,003.2	(4) Elimination of intercompany receivables	\$ (106.1)
Accounts receivable	9.4	Elimination of intra-company debt	(13.4)
Inventories	58.8	Other	(12.0)

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Income tax receivable	57.3	\$ (131.5)
Property, plant and equipment, net	160.9	
Intra-company debt	13.4	
Other	31.4	
	\$ 1,334.4	

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STEEL DYNAMICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Note 13. Segment Information (Continued)

For The Year Ended December 31, 2016	Steel Operations	Metals Recycling Operations	Steel Fabrication Operations	Other	Eliminations	Consolidated	
Net Sales							
External	\$ 5,399,275	\$ 1,007,781	\$ 700,852	\$ 271,828	\$ -	\$ 7,379,736	
External Non-United States	235,436	161,560	189	188	-	397,373	
Other segments	236,213	1,002,536	2,481	4,896	(1,246,126)	-	
	5,870,924	2,171,877	703,522	276,912	(1,246,126)	7,777,109	
Operating income (loss)	926,954	20,423	(3)	90,955	(301,116) ⁽¹⁾	(9,250) ⁽²⁾	727,966
Income (loss) before income taxes	836,818	8,378	(3)	82,776	(354,589)	(9,250)	564,133
Depreciation and amortization	213,227	56,483		10,952	15,652	(205)	296,109
Capital expenditures	160,767	29,443		3,123	4,827	-	198,160

Footnotes related to the year ended December 31, 2016, segment results (in millions):

(1) Corporate SG&A	\$ (48.9)	(2) sales	\$ (11.1)
Company-wide equity-based compensation	(30.4)	Non-cash asset impairment charges	1.8
Profit sharing	(66.4)		\$ (9.3)
Minnesota ironmaking operations	(15.8)		
Minnesota ironmaking operations non-cash asset impairment charges (\$127.3 net of eliminating amounts)	(129.1)		
Other, net	(10.5)		
	\$ (301.1)		

(3) Includes \$5.5 million of non-cash goodwill impairment charges.

STEEL DYNAMICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Note 14. Condensed Consolidating Information

Certain 100% owned subsidiaries of SDI have fully and unconditionally guaranteed jointly and severally all of the indebtedness relating to the issuance of the company's senior unsecured notes due 2021, 2023, 2024, 2025 and 2026. Following are the company's condensed consolidating financial statements, including the guarantors, which present the financial position, results of operations, and cash flows of (i) SDI (in each case, reflecting investments in its consolidated subsidiaries under the equity method of accounting), (ii) the guarantor subsidiaries of SDI, (iii) the non-guarantor subsidiaries of SDI, and (iv) the eliminations necessary to arrive at the information on a consolidated basis. The following statements should be read in conjunction with the accompanying consolidated financial statements and notes thereto.

Condensed Consolidating Balance Sheets (in thousands)

As of December 31, 2018	Parent	Guarantors	Combined Non-Guarantors	Consolidating Adjustments	Total Consolidated
Cash and equivalents	\$ 809,763	\$ 13,491	\$ 4,966	\$ -	\$ 828,220
Short-term investments	198,783	30,000	-	-	228,783
Accounts receivable, net	340,439	1,635,168	26,655	(958,506)	1,043,756
Inventories	793,174	1,038,702	39,214	(11,922)	1,859,168
Other current assets	56,578	18,627	3,994	(6,469)	72,730
Total current assets	2,198,737	2,735,988	74,829	(976,897)	4,032,657
Property, plant and equipment, net	871,482	1,918,198	156,087	-	2,945,767
Intangible assets, net	-	270,328	-	-	270,328
Goodwill	-	429,645	-	-	429,645
Other assets, including investments in subs	2,862,556	5,593	5,557	(2,848,540)	25,166
Total assets	\$ 5,932,775	\$ 5,359,752	\$ 236,473	\$ (3,825,437)	\$ 7,703,563
Accounts payable	\$ 209,156	\$ 330,156	\$ 74,353	\$ (62,911)	\$ 550,754
Accrued expenses	296,528	295,668	11,171	(159,218)	444,149
Current maturities of long-term debt	793	1,355	51,079	(28,993)	24,234
Total current liabilities	506,477	627,179	136,603	(251,122)	1,019,137
Long-term debt	2,327,798	381	166,226	(141,916)	2,352,489
Other liabilities	(836,571)	1,447,464	31,791	(197,976)	444,708
Total liabilities	1,997,704	2,075,024	334,620	(591,014)	3,816,334
Redeemable noncontrolling interests	-	-	111,240	-	111,240

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Common stock	645	1,727,859	15,016	(1,742,875)	645
Treasury stock	(1,184,243)	-	-	-	(1,184,243)
Additional paid-in capital	1,160,048	683,048	695,502	(1,378,550)	1,160,048
Retained earnings (deficit)	3,958,320	873,821	(760,823)	(112,998)	3,958,320
Accumulated other comprehensive income	301	-	-	-	301
Total Steel Dynamics, Inc. equity	3,935,071	3,284,728	(50,305)	(3,234,423)	3,935,071
Noncontrolling interests	-	-	(159,082)	-	(159,082)
Total equity	3,935,071	3,284,728	(209,387)	(3,234,423)	3,775,989
Total liabilities and equity	\$ 5,932,775	\$ 5,359,752	\$ 236,473	\$ (3,825,437)	\$ 7,703,563

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STEEL DYNAMICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Note 14. Condensed Consolidating Information (Continued)

As of December 31, 2017	Parent	Guarantors	Combined Non-Guarantors	Consolidating Adjustments	Total Consolidated
Cash and equivalents	\$ 1,001,405	\$ 20,441	\$ 6,803	\$ -	\$ 1,028,649
Accounts receivable, net	274,968	1,426,036	37,387	(869,554)	868,837
Inventories	685,103	752,151	91,890	(9,797)	1,519,347
Other current assets	73,748	16,005	5,962	(4,206)	91,509
Total current assets	2,035,224	2,214,633	142,042	(883,557)	3,508,342
Property, plant and equipment, net	859,419	1,618,438	198,047	-	2,675,904
Intangible assets, net	-	225,503	31,406	-	256,909
Goodwill	-	379,069	7,824	-	386,893
Other assets, including investments in subs	2,512,594	6,622	5,505	(2,497,037)	27,684
Total assets	\$ 5,407,237	\$ 4,444,265	\$ 384,824	\$ (3,380,594)	\$ 6,855,732
Accounts payable	\$ 168,282	\$ 316,676	\$ 101,948	\$ (97,458)	\$ 489,448
Accrued expenses	222,023	254,196	10,243	(136,186)	350,276
Current maturities of long-term debt	731	-	56,454	(28,390)	28,795
Total current liabilities	391,036	570,872	168,645	(262,034)	868,519
Long-term debt	2,326,466	-	169,799	(143,120)	2,353,145
Other liabilities	(661,839)	869,196	24,868	95,535	327,760
Total liabilities	2,055,663	1,440,068	363,312	(309,619)	3,549,424
Redeemable noncontrolling interests	-	-	111,240	-	111,240
Common stock	644	1,727,859	14,908	(1,742,767)	644
Treasury stock	(665,297)	-	-	-	(665,297)
Additional paid-in capital	1,141,534	128,076	797,196	(925,272)	1,141,534
Retained earnings (deficit)	2,874,693	1,148,262	(745,326)	(402,936)	2,874,693
Total Steel Dynamics, Inc. equity	3,351,574	3,004,197	66,778	(3,070,975)	3,351,574
Noncontrolling interests	-	-	(156,506)	-	(156,506)
Total equity	3,351,574	3,004,197	(89,728)	(3,070,975)	3,195,068
Total liabilities and equity	\$ 5,407,237	\$ 4,444,265	\$ 384,824	\$ (3,380,594)	\$ 6,855,732

STEEL DYNAMICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Note 14. Condensed Consolidating Information (Continued)

Condensed Consolidating Statements of Operations
(in thousands)

			Combined	Consolidating	Total
For the year ended December 31, 2018	Parent	Guarantors	Non-Guarantors	Adjustments	Consolidated
Net sales	\$ 4,819,137	\$ 13,000,622	\$ 555,194	\$ (6,553,114)	\$ 11,821,839
Costs of goods sold	3,675,766	11,680,691	548,626	(6,406,058)	9,499,025
Gross profit	1,143,371	1,319,931	6,568	(147,056)	2,322,814
Selling, general and administrative	298,101	312,483	12,126	(22,305)	600,405
Operating income (loss)	845,270	1,007,448	(5,558)	(124,751)	1,722,409
Interest expense, net of capitalized interest	75,312	49,205	12,595	(10,492)	126,620
Other (income) expense, net	(27,268)	(6,514)	(730)	10,527	(23,985)
Income (loss) before income taxes and					
equity in net income of subsidiaries	797,226	964,757	(17,423)	(124,786)	1,619,774
Income taxes	153,528	239,198	647	(29,404)	363,969
	643,698	725,559	(18,070)	(95,382)	1,255,805
Equity in net income of subsidiaries	614,681	-	-	(614,681)	-
Net loss attributable to noncontrolling interests	-	-	2,574	-	2,574
Net income (loss) attributable to Steel Dynamics, Inc.	\$ 1,258,379	\$ 725,559	\$ (15,496)	\$ (710,063)	\$ 1,258,379

			Combined	Consolidating	Total
For the year ended December 31, 2017	Parent	Guarantors	Non-Guarantors	Adjustments	Consolidated
Net sales	\$ 3,702,597	\$ 10,366,526	\$ 597,789	\$ (5,128,115)	\$ 9,538,797
Costs of goods sold	2,994,257	9,399,996	577,205	(5,014,675)	7,956,783
Gross profit	708,340	966,530	20,584	(113,440)	1,582,014
Selling, general and administrative	221,736	293,161	20,493	(20,257)	515,133

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Operating income	486,604	673,369	91	(93,183)	1,066,881
Interest expense, net of capitalized interest	73,521	57,622	12,901	(9,645)	134,399
Other (income) expense, net	(2,305)	(9,937)	(156)	9,645	(2,753)
Income (loss) before income taxes and equity in net loss of subsidiaries	415,388	625,684	(12,654)	(93,183)	935,235
Income taxes (benefit)	(69,961)	226,327	5,266	(32,193)	129,439
	485,349	399,357	(17,920)	(60,990)	805,796
Equity in net loss of subsidiaries	327,392	-	-	(327,392)	-
Net loss attributable to noncontrolling interests	-	-	6,945	-	6,945
Net income (loss) attributable to Steel Dynamics, Inc.	\$ 812,741	\$ 399,357	\$ (10,975)	\$ (388,382)	\$ 812,741

STEEL DYNAMICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Note 14. Condensed Consolidating Information (Continued)

For the year ended December 31, 2016	Parent	Guarantors	Combined Non-Guarantors	Consolidating Adjustments	Total Consolidated
Net sales	\$ 3,037,801	\$ 8,356,727	\$ 388,071	\$ (4,005,490)	\$ 7,777,109
Costs of goods sold	2,428,863	7,522,791	390,313	(3,899,722)	6,442,245
Gross profit (loss)	608,938	833,936	(2,242)	(105,768)	1,334,864
Selling, general and administrative	196,442	281,071	16,103	(19,557)	474,059
Asset impairment charges	12,700	5,500	116,445	(1,806)	132,839
Operating income (loss)	399,796	547,365	(134,790)	(84,405)	727,966
Interest expense, net of capitalized interest	71,182	72,420	10,874	(8,439)	146,037
Other (income) expense, net	14,200	(5,363)	520	8,439	17,796
Income (loss) before income taxes and equity in net loss of subsidiaries	314,414	480,308	(146,184)	(84,405)	564,133
Income taxes (benefit)	69,454	180,990	(15,825)	(30,492)	204,127
	244,960	299,318	(130,359)	(53,913)	360,006
Equity in net loss of subsidiaries	137,155	-	-	(137,155)	-
Net loss attributable to noncontrolling interests	-	-	22,109	-	22,109
Net income (loss) attributable to Steel Dynamics, Inc.	\$ 382,115	\$ 299,318	\$ (108,250)	\$ (191,068)	\$ 382,115

Condensed Consolidating Statements of Cash Flows (in
thousands)

For the year ended December 31, 2018	Parent	Guarantors	Combined Non-Guarantors	Consolidating Adjustments	Total Consolidated
Net cash provided by (used in) operating activities	\$ 577,735	\$ 833,409	\$ (6,704)	\$ 11,029	\$ 1,415,469
Net cash used in investing activities	(756,347)	(133,220)	(5,097)	(600)	(895,264)
Net cash provided by (used in) financing activities	(13,855)	(706,569)	9,986	(10,429)	(720,867)
Decrease in cash and equivalents, and restricted cash	(192,467)	(6,380)	(1,815)	-	(200,662)
Cash and equivalents, and restricted cash					

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at beginning of period	1,002,230	20,748	12,107	-	1,035,085
Cash and equivalents, and restricted cash					
at end of period	\$ 809,763	\$ 14,368	\$ 10,292	\$ -	\$ 834,423

For the year ended December 31, 2017	Parent	Guarantors	Combined Non-Guarantors	Consolidating Adjustments	Total Consolidated
Net cash provided by (used in) operating activities	\$ 171,216	\$ 594,404	\$ (31,946)	\$ 5,746	\$ 739,420
Net cash used in investing activities	(62,534)	(73,021)	(8,301)	4,751	(139,105)
Net cash provided by (used in) financing activities	125,954	(555,494)	26,702	(10,497)	(413,335)
Increase (decrease) in cash and equivalents, and restricted cash	234,636	(34,111)	(13,545)	-	186,980
Cash and equivalents, and restricted cash at beginning of period	767,594	54,859	25,652	-	848,105
Cash and equivalents, and restricted cash at end of period	\$ 1,002,230	\$ 20,748	\$ 12,107	\$ -	\$ 1,035,085

STEEL DYNAMICS, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (Continued)

Note 14. Condensed Consolidating Information (Continued)

For the year ended December 31, 2016	Parent	Guarantors	Combined Non-Guarantors	Consolidating Adjustments	Total Consolidated
Net cash provided by operating activities	\$ 326,256	\$ 517,643	\$ 6,064	\$ 2,797	\$ 852,760
Net cash used in investing activities	(161,043)	(140,027)	(9,578)	(2,245)	(312,893)
Net cash provided by (used in) financing activities	(35,365)	(404,971)	15,463	(552)	(425,425)
Increase (decrease) in cash and equivalents, and restricted cash	129,848	(27,355)	11,949	-	114,442
Cash and equivalents, and restricted cash at beginning of period	637,746	82,214	13,703	-	733,663
Cash and equivalents, and restricted cash at end of period	\$ 767,594	\$ 54,859	\$ 25,652	\$ -	\$ 848,105

Note 15. Quarterly Financial Information (unaudited, in thousands, except per share data)

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
2018:				
Net Sales	\$ 2,603,875	\$ 3,090,525	\$ 3,223,547	\$ 2,903,892
Gross profit	463,416	652,082	686,081	521,235
Operating income	323,397	501,887	531,572	365,553
Net income	225,475	362,572	397,906	269,852
Net income attributable to Steel Dynamics, Inc.	227,551	362,449	398,375	270,004
Earnings per share:				
Basic	0.96	1.54	1.70	1.18
Diluted	0.96	1.53	1.69	1.17
2017:				
Net Sales	\$ 2,368,216	\$ 2,390,720	\$ 2,443,382	\$ 2,336,479
Gross profit	472,154	392,518	396,518	320,824
Operating income	334,566	265,353	271,015	195,947
Net income	198,666	152,947	151,012	303,171

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Net income attributable to Steel Dynamics, Inc.	200,817	153,933	153,258	304,733
Earnings per share:				
Basic	0.83	0.64	0.64	1.28
Diluted	0.82	0.63	0.64	1.28

The fourth quarter of 2017 net income and net income attributable to Steel Dynamics, Inc. reflects \$180.6 million of tax benefit related primarily to the impacts of the revaluation of the company's deferred tax liabilities as of December 31, 2017, using the lower federal tax rate enacted in the Tax Cuts and Jobs Act of 2017.

Earnings per share are computed independently for each of the quarters presented. Therefore, the sum of the quarterly earnings per share may not equal the total for the year.

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

None.

ITEM 9A.CONTROLS AND PROCEDURES

(a)Evaluation of Disclosure Controls and Procedures.

As required, we carried out an evaluation, under the supervision and with the participation of our principal executive officer and principal financial officer, of the effectiveness of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the Exchange Act). Based on this evaluation, our principal executive officer and principal financial officer concluded that, as of December 31, 2018, the end of the period covered by this annual report, our disclosure controls and procedures were designed to provide and were effective to provide reasonable assurance that the information required to be disclosed by us in the reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the applicable rules and forms, and that it is accumulated and communicated to our management, including our principal executive and principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

Management's report on our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) and the independent registered public accounting firm's related audit report are included in Item 8. Consolidated Financial Statements and Supplementary Data of this Form 10-K and are incorporated herein by reference.

(b)Changes in Internal Control Over Financial Reporting

No changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) occurred during the fiscal quarter ended December 31, 2018, that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Our Management's Report on Internal Control Over Financial Reporting, as of December 31, 2018, can be found on page 44 of this Form 10-K, and the related Report of Independent Registered Public Accounting Firm, Ernst & Young LLP, can be found on page 45 of this Form 10-K, each of which is incorporated by reference into this Item 9A.

ITEM 9B.OTHER INFORMATION

None.

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PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS, AND CORPORATE GOVERNANCE

The information required to be furnished pursuant to Item 10 with respect to directors, executive officers, code of ethics, and audit committee and audit committee financial experts is incorporated herein by reference from the section entitled “Governance of the Company” and “Election of Directors” in our Proxy Statement for the 2019 Annual Meeting of Stockholders, which we will file with the Securities and Exchange Commission no later than 120 days after the end of our fiscal year.

ITEM 11. EXECUTIVE COMPENSATION

The information required to be furnished pursuant to Item 11 with respect to executive compensation is incorporated herein by reference from the section entitled “Executive Compensation and Related Information” in our Proxy Statement for the 2019 Annual Meeting of Stockholders, which we will file with the Securities and Exchange Commission no later than 120 days after the end of our fiscal year.

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

The information relating to security ownership of certain beneficial owners and management required by Item 12 is incorporated herein by reference from the section entitled “Security Ownership of Directors and Executive Officers” and “Security Ownership of Certain Beneficial Owners” in our Proxy Statement for the 2019 Annual Meeting of Stockholders, which we will file with the Securities and Exchange Commission no later than 120 days after the end of our fiscal year. The Equity Compensation Plan Information required by Item 12 is set forth in the table below.

Equity Compensation Plan Information

Our stockholders approved the Steel Dynamics, Inc. 2015 Equity Incentive Plan at our annual meeting of stockholders held May 21, 2015 (2015 Plan). Our stockholders approved the Amended and Restated Steel Dynamics, Inc. 2006 Equity Incentive Plan at our annual meeting of stockholders held May 17, 2012 (2006 Plan). Our stockholders approved the Steel Dynamics, Inc. 2018 Equity Incentive Compensation Plan at our annual meeting of stockholders held May 17, 2018 (2018 Plan). Our stockholders approved the Steel Dynamics, Inc. 2013 Equity Incentive Compensation Plan (2013 Plan) at our annual meeting of stockholders held May 16, 2013. The following table summarizes information about our equity compensation plans at December 31, 2018, all of which have been approved by stockholders. We do not have any equity compensation plans that have not been approved by stockholders.

	(a)	(b)	(c)
Plan	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted average exercise price of outstanding options, warrants and rights (1)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))
Equity compensation plans approved by security holders:	2,158,176	—	3,262,073

2015 Plan and predecessor 2006 Plan (1).....			
2018 Plan and predecessor 2013 Plan.....	274,617	—	1,842,571
Equity compensation plans not approved by security holders.....	N/A.....	N/A	N/A

(1) Includes 1,348,300 RSUs, 227,413 DSUs, and 582,463 LTIP awards issuable upon expiration of the vesting or deferral periods, which have no exercise price.

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

The information required to be furnished pursuant to Item 13 with respect to certain relationships and related transactions is incorporated herein by reference from the sections entitled “Statement of Policy for the Review, Approval or Ratification of Transactions with Related Persons,” and “Governance of the Company – Director Independence” in our Proxy Statement for the 2019 Annual Meeting of Stockholders, which we will file with the Securities and Exchange Commission no later than 120 days after the end of our fiscal year; and from Note 10. Transactions with Affiliated Companies to our consolidated financial statements as of December 31, 2018 and 2017, and each of the three years in the periods ended December 31, 2018, 2017, and 2016, included in Item 8. Consolidated Financial Statements and Supplementary Data of this Form 10-K Annual Report for the fiscal year ended December 31, 2018.

ITEM 14.PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required to be furnished pursuant to Item 14 with respect to principal accountant fees and services is incorporated herein by reference from the sections entitled “Audit and Non-Audit Fees” and “Policy on Audit Committee Pre-Approval of Audit and Permissible Non-Audit Services of Independent Auditor” in our Proxy Statement for the 2019 Annual Meeting of Stockholders, which we will file with the Securities and Exchange Commission no later than 120 days after the end of our fiscal year.

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PART IV

ITEM 15.EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(a)The following documents are filed as a part of this report:

1.Financial Statements: See the Audited Consolidated Financial Statements of Steel Dynamics Inc. included as part of Item 8. Consolidated Financial Statements and Supplementary Data and described in the Index on page 43 of this Report.

2.Financial Statement Schedules: All schedules for which provision is made in the applicable regulations of the Securities and Exchange Commission are not required under the related instructions or are inapplicable and therefore have been omitted.

(b)Exhibits:

Reference is made to the Exhibit Index preceding the signature pages hereto, which Exhibit Index is hereby incorporated into this item.

ITEM 16.FORM 10-K SUMMARY

None.

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EXHIBIT INDEX

Articles of Incorporation

3.1a Amended and Restated Articles of Incorporation of Steel Dynamics, Inc., incorporated herein by reference from Exhibit 3.1a to our Registration Statement on Form S-1, SEC File No. 333-12521, effective November 21, 1996.

3.1b Amendment to Article IV of the Amended and Restated Articles of Incorporation of Steel Dynamics, Inc., effective November 2, 2006, increasing the authorized shares to 200 million, incorporated herein by reference from Exhibit 3.1b to our report on Form 10-Q filed May 7, 2008.

3.1c Amendment to Article IV of the Amended and Restated Articles of Incorporation of Steel Dynamics, Inc., effective March 27, 2008, increasing the authorized common shares to 400 million, incorporated herein by reference from Exhibit 3.1c to our report on Form 10-Q, filed May 7, 2008.

3.1d Amendment to Article IV of the Amended and Restated Articles of Incorporation of Steel Dynamics, Inc., effective June 2, 2009, increasing the authorized common shares to 900 million, incorporated herein by reference from Exhibit 3.1d to our Form 8-K filed June 2, 2009.

3.1c Amendment to Article IV of the Amended and Restated Articles of Incorporation of Steel Dynamics, Inc., effective March 27, 2008, increasing the authorized common shares to 400 million, incorporated herein by reference from Exhibit 3.1c to our report on Form 10-Q, filed May 7, 2008.
3.1d Amendment to Article IV of the Amended and Restated Articles of Incorporation of Steel Dynamics, Inc., effective June 2, 2009, increasing the authorized common shares to 900 million, incorporated herein by reference from Exhibit 3.1 to our Form 8-K filed June 2, 2009.

3.1e Amendment to Article VII of the Amended and Restated Articles of Incorporation of Steel Dynamics, Inc., effective as of May 17, 2018, incorporated herein by reference from Exhibit 3.1e to our Form 10-Q filed August 9, 2018.

3.2a Amended and Restated Bylaws of Steel Dynamics, Inc., incorporated herein by reference from Exhibit 3.1 to our Form 8-K filed July 6, 2006.

3.2b Amendment adding Section 3.15 to Amended and Restated Bylaws of Steel Dynamics, Inc., incorporated herein by reference from Exhibit 3.2b to our Form 10-Q filed August 7, 2009.

3.2c Amendment replacing Article XI of the Amended and Restated Bylaws of Steel Dynamics, Inc., incorporated herein by reference from Exhibit 3.2c to our Form 10-Q filed November 9, 2017.

3.2d Amendment replacing Section 3.2 of the Amended and Restated Bylaws of Steel Dynamics, Inc., incorporated herein by reference from Exhibit 3.2d to our Form 10-Q filed November 7, 2018.

Instruments Defining the Rights of Security Holders, Including Indentures

4.20 Indenture relating to our issuance of \$400 million of 5 1/4% Senior Notes due 2023, among Steel Dynamics, Inc., as Issuer, the Initial Subsidiary Guarantors, and Wells Fargo Bank, National Association, as Trustee, dated as of March 26, 2013, incorporated herein by reference from Exhibit 4.20 to our Form 8-K filed March 28, 2013.

4.23 Indenture dated September 9, 2014, relating to our issuance of \$700 million of 5.125% Senior Notes due 2021, among Steel Dynamics, Inc., as Issuer, the Initial Subsidiary Guarantors named therein, and Wells Fargo Bank, National Association, as Trustee, incorporated herein by reference from Exhibit 4.23 to our Form 8-K filed September 12, 2014.

4.24 Indenture dated September 9, 2014, relating to our issuance of \$500 million 5.500% Senior Notes due 2024, among Steel Dynamics, Inc., as Issuer, the Initial Subsidiary Guarantors named therein, and Wells Fargo Bank, National Association, as Trustee, incorporated herein by reference from Exhibit 4.24 to our Form 8-K filed September 12, 2014.

4.27 Indenture dated December 6, 2016, relating to our issuance of \$400 million 5.000% Senior Notes due 2026, among Steel Dynamics, Inc., as Issuer, the Initial Subsidiary Guarantors named therein, and Wells Fargo Bank, National Association, as Trustee, incorporated herein by reference from Exhibit 4.27 to our Form 8-K filed December 8, 2016.

4.30 Indenture dated September 13, 2017, relating to our issuance of \$350 million 4.125% Senior Notes due 2025, among Steel Dynamics, Inc., as Issuer, the Initial Subsidiary Guarantors named therein, and Wells Fargo Bank, National Association, as Trustee, incorporated herein by reference from Exhibit 4.30 to our Form 8-K filed September 13, 2017.

Material Contracts

10.2 Loan Agreement between Indiana Development Finance Authority and Steel Dynamics, Inc. re Taxable Economic Development Revenue bonds, Trust Indenture between Indiana Development Finance Authority and NBD Bank, N.A., as Trustee Loan Agreement between Indiana Development Finance Authority and Steel Dynamics, Inc., incorporated herein by reference from Exhibit 10.12 to Registrant's Registration Statement on Form S-1, File No. 333-12521, effective November 21, 1996.

10.20†Steel Dynamics, Inc., Change in Control Benefit Plan, incorporated herein by reference from our Exhibit 10.20 to our 8-K filed December 4, 2012.

10.41b†Amended and Restated Steel Dynamics, Inc. 2006 Equity Incentive Plan, as approved by shareholders on May 17, 2012, incorporated herein by reference from our Exhibit 10.41b to our 8-K filed August 21, 2012.

10.41c†Steel Dynamics, Inc. Long-Term Incentive Compensation Program, adopted August 15, 2012, incorporated herein by reference from our Exhibit 10.41c to our 8-K filed August 21, 2012.

10.52†Director Agreement between the Company and Keith E. Busse, dated October 14, 2011, incorporated herein by reference from Exhibit 10.52 to our Form 8-K filed October 20, 2011.

10.53†2013 Executive Incentive Compensation Plan, approved by stockholders on May 16, 2013, incorporated herein by reference from our May 16, 2013, Notice of Annual Meeting of Stockholders filed March 27, 2013.

10.55†Steel Dynamics, Inc. 2014 Employee Stock Purchase Plan, incorporated herein by reference from our May 15, 2014, Notice of Annual Meeting and Stockholders filed March 27, 2014.

10.57†2015 Equity Incentive Plan, as approved by shareholders on May 21, 2015, incorporated herein by reference from our May 21, 2015, Notice of Annual Meeting of Stockholders filed March 30, 2015.

10.58 Third Amended and Restated Credit Agreement dated as of June 28, 2018, by and among Steel Dynamics, Inc. and the agents and lenders named therein, incorporated herein by reference from Exhibit 10.58 to our Form 8-K filed

July 3, 2018.

Other

21.1*List of our Subsidiaries

23.1*Consent of Ernst & Young LLP.

24.1Powers of attorney (see signature pages on pages 86 and 87 of this Report).

95 **Mine Safety Disclosures

Executive Officer Certifications

31.1*Certification of Chief Executive Officer required by Item 307 of Regulation S-K as promulgated by the Securities and Exchange Commission and pursuant to Section 302 of the Sarbanes Oxley Act of 2002.

31.2*Certification of Chief Financial Officer required by Item 307 of Regulation S-K as promulgated by the Securities and Exchange Commission and pursuant to Section 302 of the Sarbanes Oxley Act of 2002.

32.1*Certification of Chief Executive Officer Pursuant to 18 U.S.C Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes Oxley Act of 2002.

32.2*Certification of Chief Financial Officer Pursuant to 18 U.S.C Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes Oxley Act of 2002.

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XBRL Documents

101.INS* XBRL Instance Document

101.SCH* XBRL Taxonomy Extension Schema Document

101.CAL* XBRL Taxonomy Extension Calculation Document

101.DEF* XBRL Taxonomy Extension Definition Document

101.LAB* XBRL Taxonomy Extension Label Document

101.PRE* XBRL Taxonomy Presentation Document

*Filed concurrently herewith

**Inapplicable for purposes of this report

†Indicates a management contract or compensatory plan or arrangement.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of Securities Exchange Act of 1934, Steel Dynamics, Inc. has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

February 27, 2019

STEEL DYNAMICS, INC.

By: /s/ Mark D. Millett
 Mark D. Millett
 Chief Executive Officer

(Principal Executive Officer)

POWER OF ATTORNEY

Each person whose signature appears below constitutes and appoints Mark D. Millett and Theresa E. Wagler, either of whom may act without the joinder of the other, as his true and lawful attorneys-in-fact and agents with full power of substitution and resubstitution, for him, and in his name, place and stead, in any and all capacities to sign any and all amendments, and supplements to this 2018 Annual Report on Form 10-K, filed pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, and to file the same, with all exhibits thereto, and all other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents full power and authority to do and performs each and every act and thing requisite and necessary to be done, as full to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or their substitute or substitutes may lawfully do or cause to be done by virtue thereof. Pursuant to the requirements of the Securities Exchange Act of 1934, this 2018 Annual Report on Form 10-K has been signed below by the following persons on behalf of Steel Dynamics, Inc. and in the capacities and on the dates indicated.

Signatures	Title	Date
/s/ MARK D. MILLETT Mark D. Millett	Chief Executive Officer and Director (Principal Executive Officer)	February 27, 2019
/s/ THERESA E. WAGLER Theresa E. Wagler	Executive Vice President and Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	February 27, 2019
/s/ KEITH E. BUSSE Keith E. Busse	Director	February 27, 2019

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/s/ SHEREE L. BARGABOS Director February 27, 2019
Sheree L. Bargabos

/s/ FRANK D. BYRNE, M.D. Director February 27, 2019
Frank D. Byrne, M.D.

/s/ KENNETH W. CORNEW Director February 27, 2019
Kenneth W. Cornew

/s/ TRACI M. DOLAN Director February 27, 2019
Traci M. Dolan

/s/ DR. JÜRGEN KOLB Director February 27, 2019
Dr. Jürgen Kolb

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/s/ JAMES C. MARCUCCILLI Director February 27, 2019
James C. Marcuccilli

/s/ BRADLEY S. SEAMAN Director February 27, 2019
Bradley S. Seaman

/s/ GABRIEL L. SHAHEEN Director February 27, 2019
Gabriel L. Shaheen

/s/ STEVEN A. SONNENBERG Director February 27, 2019
Steven A. Sonnenberg

/s/ RICHARD P. TEETS, JR. Director February 27, 2019
Richard P. Teets, Jr.