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

X **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 FOR THE FISCAL YEAR ENDED DECEMBER 31, 2021**

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

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	Trading Symbol	Name of each exchange on which registered
Common Stock voting, $0.0025 par value	STLD	NASDAQ Global Select 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 ☐

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 filer ☐
Non-accelerated filer ☐ Smaller reporting company ☐ Emerging growth company ☐

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

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

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, 2021, was approximately $8.7 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 18, 2022, Registrant had outstanding 191,299,162 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 2, 2022, 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," are intended to 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:

Global and National Risks

- domestic and global economic factors including periods of slower than anticipated economic growth and the risk of a recession;
- global steelmaking overcapacity and imports of steel into the United States, together with increased scrap prices;
- pandemics, epidemics, widespread illness or other health issues, such as the COVID-19 pandemic;

Industry Risks

- the cyclical nature of the steel industry and some of the industries we serve;
- volatility and major fluctuations in prices and availability of scrap metal, scrap substitutes, and our potential inability to pass higher costs on to our customers;
- cost and availability of electricity, natural gas, oil, or other energy resources are subject to volatile market conditions;
- increased environmental, greenhouse gas emissions and sustainability considerations or regulations;
- compliance with and changes in environmental and remediation requirements;

Operational and Commercial Risks

- significant price and other forms of competition from other steel producers, scrap processors and alternative materials;
- availability of an adequate source of supply of scrap for our metals recycling operations;
- cybersecurity threats and risks to the security of our sensitive data and information technology;
- the implementation of our growth strategy;
- litigation and legal compliance;
- unexpected equipment downtime or shutdowns;
- governmental agencies may refuse to grant or renew some of our licenses and permits required to operate our businesses;
- our senior unsecured credit facility contains, and any future financing agreements may contain, restrictive covenants that may limit our flexibility; and
- the impact of impairment charges.

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

Steel Dynamics, Inc. is one of the largest domestic steel producers and metal recyclers in the United States, based on estimated steelmaking and steel coating capacity of approximately 13 million tons and actual metals recycling volumes as of December 31, 2021, with one of the most diversified product and end-market portfolios in the domestic steel industry. Annual steelmaking and steel coating capacity is expected to increase to approximately 16 million tons once our new Southwest-Sinton Flat Roll Division is fully operational. The company's primary sources of revenue are from the manufacture and sale of steel products, the processing and sale of recycled ferrous and nonferrous metals, and the fabrication and sale of steel joists and deck products.

We refer to our founding principles as our six core strategic pillars. They bring us together with a common focus, and they provide the foundation upon which we operate and grow. Our unique entrepreneurial culture and business model benefit us operationally, financially, and through the responsible use of our resources in diverse economic environments. Innovation in all forms is essential to our success. Our teams focus on how to do things effectively and efficiently within our current operations, and how we can continue to strategically grow. This means creating solutions for our teammates, customers, suppliers, and other stakeholders. It also includes finding ways to operate more efficiently using minimal resources with minimal environmental impact. Our six pillars and the team's execution of them each day has driven our success and sustainability.

- **Safety** – Creating and maintaining a safe work environment is the foundation of our decision making. Safety is always at the forefront and is a constant topic of conversation across the company. Our goal is zero injuries—no accidents.

- **Culture** – Our entrepreneurial culture fosters a team of energetic, positive, driven, innovative and diverse individuals by utilizing open communication and meaningful performance-based compensation aligned to our strategic focus.

- **Customer Commitment** – We focus on being a preferred partner of our customers by providing quality products and unique supply-chain solutions to meet their current and future needs.

- **Growth** – We focus on strategic growth with intentional margin expansion to improve our through-the-cycle earnings.

- **Innovation** – Through individual creativity and ingenuity, our teams drive innovation to improve safety, quality, productivity, and resource sustainability. We strive to provide unique, superior products, customer supply chain solutions, and next-generation technologies and processes.

- **Financial Strength** – Through our adaptable value-added product diversification, vertically connected businesses model, coupled with our highly variable operating cost structure and performance-based incentive compensation, along with our continued operating innovations and efficiency, we achieve higher utilization and lower costs, which provide strong cash flow generation through both strong and weak market cycles.

Differentiated Model - Uniquely Steel Dynamics

Competitively advantaged differentiation is core to our long-term value creation strategy. We aim to set ourselves apart in every aspect of our business with a spirit of excellence, with the following core values driving our differentiation strategy.

Unique Entrepreneurial Culture

Our entrepreneurial culture is at the core of our success and is driven by our extensive performance-based incentive compensation philosophy for those on the plant floor to senior leadership. Over 60% of a plant floor colleague's total potential compensation is "at risk" of being achieved due to both quality production and cost-effectiveness metrics in place. Over 85% of our senior leadership team's total potential compensation is "at risk" to company-wide financial performance metrics that encourage long-term value creation, including return on equity, growth, cash generation, and return on invested capital metrics. Our common goal of consistently achieving excellence in all we do is reflected in the esprit de corps that permeates our team. We believe diversity within our teams enhances broad-based thinking, innovation, and value creation.

Diversified, Value-Added Product Offerings / Supply-Chain Solutions

We have one of the most diversified, high-margin product offerings of any domestic steel producer. We have a track record of profitable growth, driving diversification in both end markets and product offerings to sustain higher volume and profitability through all market environments. This includes developing premium, value-added steel products, with over 70% of our steel and fabrication sales being considered value-added.

A key competitive advantage is our numerous supply-chain solutions which provide significant advantages to our customers, creating long-lasting relationships and higher through-cycle sales. The majority of our steelmaking operations are in locations near sustainable sources of scrap metals 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.

This diversified portfolio of products enables us to access a broad range of markets, serve a large customer base, and helps mitigate our market exposure to any one product or sector, resulting in increased through-cycle steel mill utilization. In addition, our value-added steel product offerings help to balance our exposure to commodity grade products supplied by other steel 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.

Our new Southwest-Sinton Flat Roll Division growth investment is a prime example of our internal growth and differentiated business model. This electric arc furnace (EAF) flat roll steel mill will have approximately 3.0 million tons of annual steel production capacity, including value-added coating lines comprised of a galvanizing line with annual coating capacity of 550,000 tons with galvalume capability, and a paint line with annual coating capacity of 250,000 tons. As with all our growth initiatives, we seek to competitively differentiate ourselves through service, product capability and quality, and supply chain solutions. This investment encompasses each of these elements.

By leveraging our construction and operating expertise, this "next-generation" EAF flat roll steel mill will have product size and quality production capabilities beyond that of existing domestic EAF flat roll steel producers, competing even more effectively with the integrated steel model and foreign competition. Our new steel mill will have the capability to provide higher-strength, tougher grades of flat roll steel for the energy and automotive markets. These ultra-high-strength steel products are not currently readily available from other domestic steel producers. We are also building four additional value-added flat roll steel coating lines comprised of a paint line and a galvanizing line located onsite at each of our Southwest-Sinton and Heartland Flat Roll divisions. These lines will provide high-margin product and end-market diversification.

The Southwest-Sinton Flat Roll Division construction team experienced several challenges during 2021, including weather related events, supply chain disruptions and the ongoing COVID-19 impact on the construction industry, which caused some delays. The team navigated these challenges, and the two coating lines were commissioned in the second half of 2021, with the remainder of the operations commencing in early 2022.

The Southwest-Sinton Flat Roll Division has significant competitive advantages—including geographic market positioning, power accessibility, competitive freight for the intended customers, proximity to a deep-water port and site constructability. By locating our new steel mill in Sinton, Texas, we strategically targeted underserved markets that are largely reliant on imports with long lead times and lower product quality capabilities, providing customers throughout the Southwest United States and Mexico significant freight benefits and shorter lead times allowing them to realize working capital advantages. Additionally, six steel customers have committed to locate onsite, representing over 1.8 million tons of annual flat roll steel processing and consumption capacity. All of these customers have broken ground on their respective operations.

Our new EAF steel mill is adhering to the same sustainability model as our other steelmaking facilities, utilizing state of the art environmental controls and processes to produce high quality sustainable steel. Our existing EAF steel mills have a fraction of the greenhouse gas emissions (GHG) and energy intensity of average traditional integrated steelmaking technology, resulting in a much more environmentally responsible steel production alternative.

Vertically Connected Businesses and Pull-Through Volume Advantage

Our vertically connected businesses contribute to our higher through-cycle steel production and overall profitability. Steel demand that is generated from our internal manufacturing businesses is a significant competitive advantage supporting higher and more stable through-cycle earnings and cash flow generation. Our steel fabrication operations and downstream processing locations use a significant amount of steel in their operations. During weaker demand environments, we can source more of their needs internally, and during strong demand environments, we can source more of their needs externally at a preferred cost. Ultimately, we optimize our company-wide profitability in all steel demand environments. In 2021, our own steel consuming businesses purchased nearly 1.7 million tons of steel from our steel mills, representing 15% of our total 2021 steel shipments.

A strategic synergistic relationship also exists between our steel mills and metals recycling operations, which is the largest supplier of recycled ferrous scrap to our steel operations. This allows us to manage company-wide working capital, as we can retain less scrap inventory at the steel mills, and we are able to source higher-quality scrap for our steel mills, optimizing cost and quality. Additionally, as a consistent consumer of recycled ferrous scrap, our steel operations help maintain steady sales for the metals recycling platform.

Technically Advanced, Low-Cost, Highly-Efficient Operations

We operate some of the most technically advanced and environmentally responsible steel operations when compared to global steelmaking operations. We are focused on maintaining one of the lowest operating cost structures in the North American steel industry. Our value-added product diversification, vertically connected businesses, and performance-based incentive compensation programs drive our efficient, environmentally responsible, and competitively advantaged footprint.

Our low operating costs are primarily a result of our efficient plant designs and operations, our high productivity rate, our focus on ongoing maintenance requirements and strategic locations near sources of our primary raw material, ferrous scrap, and near our customers. 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 market cycles, and to consistently maximize our profitability. Additionally, we continuously seek to maximize the variability of our cost structure and to reduce per unit and fixed costs.

Sustainability

Sustainability is a part of our long-term value creation strategy. We are dedicated to our people, our communities and our environment. We are committed to operating our business with the highest integrity and have been since our founding.

We only produce steel using EAF technology, which uses recycled ferrous scrap as the primary raw material. EAF steelmaking technology generates a mere fraction of the carbon emissions produced and energy intensity required by traditional blast furnace steelmaking technology. We believe EAF production is currently the steelmaking technology that provides the least environmental impact, is the most cost effective, and provides the most flexibility, and as such, has been a focus of our growth strategy.

Our intentional growth strategy has focused on increasing through-cycle cash generation and providing growth opportunities for our people, partners, communities, and shareholders, all while keeping sustainability of resources and our impact to the environment at the fore. We have intentionally developed a vertically connected operating model, further strengthening our company by creating a circular manufacturing model.

Our metals recycling platform collects and processes scrap from manufacturing and end-of-life items, such as automobiles, appliances, and machinery. This processed scrap is then sold to end-users for reuse, including our EAF steel mills, which produce new steel from the scrapped material. Our steel is then sold to consumers that both further process and manufacture end products. We sell a meaningful amount of steel to our own manufacturing businesses that in turn sell finished products to consumers. Ultimately, when these products reach the end of their life cycle, they can be collected as scrap and used again in our steelmaking operations, creating our circular manufacturing model.

We recognize that minimizing the impact of GHG is important to our stakeholders, including our customers, shareholders, local communities and team members. We endeavor for continuous improvement in minimizing carbon dioxide emissions, while maintaining compliance with regulation emission limits. We monitor our GHG emissions by regularly reviewing furnace performance and efficiency. We analyze the latest available technologies to also determine whether emissions can be minimized. Our carbon mitigation strategy and our related goals announced in July 2021 are integral to our overarching sustainability program to address climate-related considerations. Our Board of Directors provides oversight concerning the company's sustainability strategy, disclosures, and climate-related impact. Our senior leadership, including our Chief Executive Officer, Chief Financial Officer, and senior executives of our operating platforms, establish our near- and long-term strategies related to our climate-related assessments, goals, and programs.

Experienced Leadership Team / Fosters an Entrepreneurial Culture

Our senior leadership team is highly experienced and has a proven track record in the steel, metals recycling, and steel fabrication industries. Our leadership objectives are closely aligned with our stakeholders through meaningful stock ownership positions and performance-based incentive compensation programs that are correlated to the company's profitability and operational performance in relationship to our steel manufacturing peers. We emphasize decentralized operational decision making and responsibility, while continuing to maintain appropriate corporate governance and risk oversight. We reward teamwork, innovation, and operating efficiency, and focus on maintaining the effectiveness of our performance-driven incentive bonus plans that are designed to maximize overall productivity and align the interests of our leadership and teams with our stakeholders.

Name	Age	Position
Mark D. Millett	62	Chairman, President and Chief Executive Officer
Theresa E. Wagler	51	Executive Vice President, Chief Financial Officer and Corporate Secretary
Russell B. Rinn	64	Executive Vice President, Metals Recycling
Miguel Alvarez	54	Senior Vice President, Southwest United States and Mexico
Christopher A. Graham	57	Senior Vice President, Long Products Steel Group
Glenn A. Pushis	56	Senior Vice President, Special Projects
Barry T. Schneider	53	Senior Vice President, Flat Roll Steel Group
James S. Anderson	61	Vice President, Steel Fabrication

Mark D. Millett co-founded the company in 1993. Mr. Millett has been the Board Chair since May 2021 and has been our President and Chief Executive Officer since January 2012. Prior to that, he held various positions within the company, including President and Chief Operating Officer, Executive Vice President of Metals Recycling and Ferrous Resources, and Executive Vice President of Flat Roll Operations. Mr. Millett was responsible for the design,

construction, and start-up operation of all of our steel mills, including our Butler, Indiana flat roll, melting, and casting operations. Mr. Millett currently serves as Chairman of the Steel Manufacturers Association (SMA). During 2019, Mr. Millett was named the recipient of the James F. Collins Achievement in Advocacy Award by the SMA. During 2014, Mr. Millet was named Steelmaker of the Year by the Association of Iron and Steel Technology. Mr. Millett earned his bachelor's degree in metallurgy from the University of Surrey, England.

Theresa E. Wagler has been our Executive Vice President, Chief Financial Officer and Corporate Secretary 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. She is responsible for and oversees accounting and taxation, treasury, risk management, legal, information technology and cyber security, health and safety, human resources, sustainability strategy, and strategic business development functions, as well as, financial planning and analysis, investor relations, and corporate communications. Ms. Wagler also has various operational responsibilities directly overseeing two operating joint ventures. Prior to joining Steel Dynamics, Ms. Wagler was 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 for Trine University and for the Metals Service Center Institute.

Russell B. Rinn has been our Executive Vice President, Metals Recycling since July 2011. Mr. Rinn is responsible for OmniSource's ferrous and nonferrous metals recycling operations including marketing, trading, and logistics activities. 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 and President of Americas Division of Commercial Metals Company (CMC), a Texas-based mini-mill steel company. He has more than 40 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.

Miguel Alvarez has been our Senior Vice President, Southwest United States and Mexico, since February 2019. Mr. Alvarez is responsible for the comprehensive business development and partnerships in the regions, encompassing both steel and recycled metals. Prior to joining Steel Dynamics, Mr. Alvarez served in leadership positions at BlueScope; this includes leading BlueScope's North American metal buildings business with manufacturing facilities in the United States and Mexico, and being responsible for BlueScope's only North American electric arc furnace flat roll steel mill as President of North Star BlueScope Steel. Mr. Alvarez earned a bachelor's degree in industrial engineering and an MBA from Tecnológico de Monterrey, México.

Christopher A. Graham has been our Senior Vice President, Long Products Steel Group, since February 2019. In this role, Mr. Graham is responsible for the company's four long product steel mills and a downstream finishing operation. Prior to that, 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, and other operational and leadership roles. Mr. Graham was also a part of the team that constructed the company's first steel mill in Butler, Indiana, in 1994. Mr. Graham earned a bachelor's degree in business management from Western Governors University and an MBA from the University of Saint Francis.

Glenn A. Pushis has been our Senior Vice President, Special Projects, since February 2019. Mr. Pushis is responsible for the successful design and construction of the company's new Southwest-Sinton Flat Roll Division. He has extensive experience in this capacity and has been instrumental in numerous construction projects for Steel Dynamics since its founding. Prior to that, Mr. Pushis served as Senior Vice President, Long Products Steel Group, responsible for the company's four long product steel mills. Mr. Pushis has been with Steel Dynamics since 1994, holding various operational and leadership roles, including roles within the Engineered Bar Products Division and the Butler Flat Roll Division. He was also part of the team that constructed the company's first steel mill in Butler, Indiana, in 1994. Mr. Pushis earned a bachelor's degree in mechanical engineering from Purdue University and his MBA from Indiana University.

Barry T. Schneider has been our Senior Vice President, Flat Roll Steel Group, since March 2016. Mr. Schneider is responsible for the company's entire flat roll steel operations, including the company's two flat roll steel mills and numerous flat roll processing, coating, and distribution operations. Before that, Mr. Schneider served in various operational and leadership roles within the company's steel operations, including our Engineered Bar Products Division and Butler Flat Roll Division. He was also part of the team that constructed the company's first steel mill in Butler, Indiana, in 1994. Mr. Schneider earned a bachelor's degree in mechanical engineering and a master of science in engineering management from Rose-Hulman Institute of Technology. In addition, Mr. Schneider serves as a director for the Association of Iron & Steel Technology and Unity Aluminum.

James S. Anderson has been our Vice President, Steel Fabrication, and President of New Millennium Building Systems, since February 2019. In this role, Mr. Anderson is responsible for the company's steel fabrication operations. Prior to that, Mr. Anderson served as the Chief Operating Officer of New Millennium Building Systems, and was the general manager of The Techs three flat roll galvanizing lines. Mr. Anderson earned a bachelor's degree in metallurgical engineering from Grove City College and an MBA from the University of Pittsburgh.

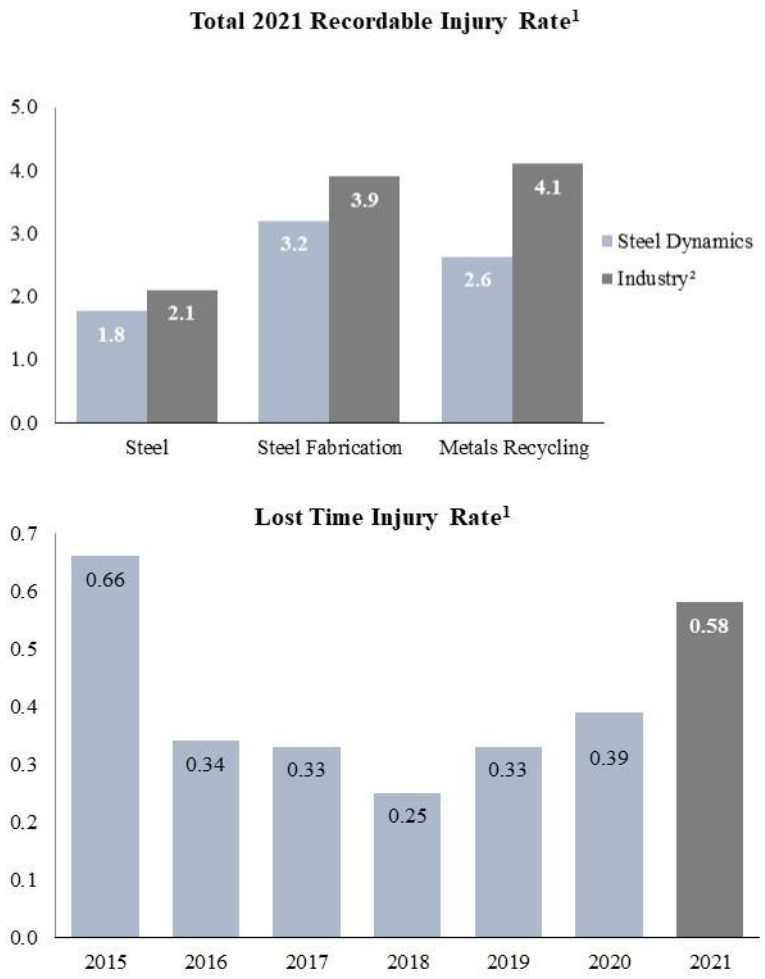
Human Capital / Valuing People

We value the dedicated people whose passion, innovation, and spirit of excellence have helped successfully grow our company and serve our customers. We have a culture of transparency and trust, fostered through individual empowerment and accountability that drives decision-making throughout our business. Our performance-based incentive compensation programs align our people with the interests of our strategic long-term growth and our stakeholders, including our customers, communities, and shareholders. We know that our teams will do what is right and that trust comes from effective communication and transparency. The Steel Dynamics team consisted of approximately 10,640 full-time team members at December 31, 2021.

Health and Safety

Valuing people includes providing a healthy and safe work environment and creating a culture of safety that extends beyond the workplace, into our homes and communities. Safety is and always will be our primary focus and core value. We intend for each individual to arrive at the workplace safely and return home safely each day. This is achievable when we all work together. It requires commitment from leadership and team members at every level to take ownership and responsibility for their safety and the safety of others. Under no circumstance does the desire to maximize production or earnings override the priority of individual safety.

Safety is our first core strategic pillar — it is the foundation of our decision making. Safety is always at the forefront and is a constant topic of conversation across the company, whether led by a team member from the plant floor, a supervisor, or a manager. Leadership is engaged and continuously evaluates where we can improve. We believe having every individual engaged in safety will lead to zero injuries. We are committed to continually strive to achieve world-class safety performance throughout our operations to ensure everyone goes home safely. The commitment to safety has led to each of our platforms performing better than industry benchmarks. Our total recordable injury rate compared to industry benchmarks and lost time injury rates for 2021 are as follows:



[1] Total Recordable Injury Rate is defined as OSHA recordable incidents x 200,000 / hours worked. Lost Time Injury Rate is defined as OSHA days away from work cases x 200,000 / hours worked.
[2] Source: 2020 U.S. DOL Bureau of Labor Statistics

Coronavirus (COVID-19)

Our leadership teams, safety professionals, and nursing team have been instrumental in our responsible handling of the COVID-19 pandemic. Our teams are our most valued priority, and we took decisive, conservative actions and implemented numerous additional health-related protocols and policies in early March 2020, when it became apparent there was a risk to our teams. We continue to monitor the situation and adjust our protocols as appropriate in order to keep our teams safe, while serving our customers. Our facilities have remained operational throughout 2021 and 2020.

Talent Development and Educational Opportunities

Our people represent the foundation of our six strategic pillars. Their continued education and talent development is paramount to our success. Our education assistance and development programs encourage personal growth so individuals can remain current in their areas of responsibility, as well as develop new skills for advancement. Our senior leadership plays a key role in our development programs, linking our culture to critical, proven leadership concepts. As we continue to grow, building talent and creating opportunities within our teams is one of our most important tasks and is critical to our long-term success. We have numerous programs and development initiatives designed to develop our employees.

Compensation Structure

We believe in empowering our teams and rewarding them for their achievements through a four-tiered, performance-based compensation framework. The various components of our compensation programs promote a balance of high-return growth, effective capital investment, low-cost operations, and risk mitigation. By rewarding our teams based on their performance as an individual, as a team, as a company, and based on shareholder concerns, we believe we have the ultimate alignment with our stakeholders. This is achieved through the following methods:

- Individual performance awards consist of an individual's base compensation, which is determined by their individual performance, responsibilities, and skills.

- Team performance awards are based on departmental results, rewarding cost effectiveness and quality production. Our performance-based incentive programs reward team members for reducing waste and increasing efficiency, while also producing quality products for our customers. These awards can be well over 100% of base wages, based on strong performance and on the teams doing things that are within their control.

- Company-wide performance awards unite everyone through our profit-sharing program, which is based on consolidated pretax profitability, and our 401(k) match, which is based on consolidated return on assets.

- Alignment with our shareholders and the pursuit of long-term value creation is fostered through the issuance of restricted stock units. Each full-time, non-union, United States-based team member receives annual equity awards. These awards generally have a two-year vesting period, supporting retention and company-wide strategy alignment.

Our compensation framework helps ensure that we remain strong with best-in-class performance and retain top talent even in economic downturns. We all share in the company's successes, as well as the challenges.

Workplace Philosophy

Our people are the foundation of our success and are our most important resource. Our culture safeguards all people and requires each person to be treated fairly and with dignity. We have equal employment opportunity, no tolerance for harassment of any kind, respect for human rights, diversity, and inclusion – all of which focus on our expectations of treating every person with the utmost respect.

We recognize the value of having a business that reflects diversity of backgrounds and experiences. We work together as a unified team and respect each other as individuals. Our team-based compensation structure reinforces this philosophy. We strive to create a welcoming, open, and inclusive environment, ensuring the best ideas are heard and valued regardless of the position or the individual. We believe these ideals will continue to drive our success.

Given the value our team members provide, retention is a key metric to our company. In 2021, our overall employee retention was approximately 81%, with domestic and steel operations retention of 86% and 91%, respectively.

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.

Steel Operations Segment

Steel operations consist of our EAF steel mills, producing steel from ferrous scrap and scrap substitutes, utilizing continuous casting, automated rolling mills and numerous steel coating and processing lines. 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 72%, 74% and 76% of our consolidated net sales during 2021, 2020 and 2019, respectively. We currently are predominantly a domestic steel company, with exported sales representing 4% of our steel segment net sales during 2021, 2020, and 2019.

Our steel operations consist primarily of steelmaking and numerous coating operations. In 2021, we had approximately 8.4 million tons of flat roll steel annual shipping capacity, comprised of 6.4 million tons of flat roll steel capacity at our Butler and Columbus Flat Roll Divisions. We have an additional 2.0 million tons of flat roll steel shipping capacity through The Techs and our Heartland Flat Roll Division, as well as distribution of metallic coated and pre-painted products through United Steel Supply (USS). Once fully operational, the Southwest-Sinton Flat Roll Division will add 3.0 million tons of annual flat roll steel shipping capacity. We have annual flat roll galvanizing capability (including Southwest-Sinton Flat Roll Division in late 2021) of 4.7 million tons and painting capability (including Southwest-Sinton Flat Roll Division in late 2021) of 1.5 million tons. We also have approximately 4.4 million tons of long product steel capacity at our long products divisions.

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:

Steel Operations Products and Tons Sold by End Market		Construction - Metal Building	Construction - Light Commercial & Residential	Construction - Heavy	Construction - Appliance & HVAC	Automotive	Heavy Equipment	Other Transportation, Including Rail	Agriculture	Energy	Pipe & Tube	Other Manufacturing
Steel Operations Tons Sold by End Market (based on 2021 tons shipped)		10%	19%	14%	6%	12%	1%	7%	2%	4%	5%	20%
				49%								
Divisions and Products												
Sheet Steel Products:												
Butler, Columbus, and Southwest-Sinton Flat Roll Divisions		●	●		●	●		●	●	●	●	●
Hot Roll (HR)	HR, and pickled and oiled HR sheet steel											
Cold Roll (CR)	CR sheet steel											
Metallic Coated	HR and CR galvanized, HR galvannealed, CR galvannealed, and Galvalume® sheet steel											
Painted	Pre-painted sheet steel											
The Techs - Processing		●	●	●	●	●			●	●	●	●
Metallic Coated	HR and CR galvanized and Galfan® sheet steel											
Heartland Flat Roll Division - Processing		●	●		●						●	
Hot Roll and Cold Roll	HR pickled and oiled, and CR sheet steel											
Metallic Coated	CR galvanized sheet steel											
United Steel Supply - Distribution		●	●									
Metallic Coated	HR and CR galvanized, and Galvalume® sheet steel											
Painted	Pre-painted sheet steel											
Long Products:												
Structural and Rail Division			●	●			●	●		●		●
Structural Steel Beams	Wide flange, American Standard Beams, H Piling, and manufactured housing beams											
Rail	Standard strength carbon, intermediate alloy hardness, and premium grade											
Structural Shapes	Channels, angles and flat bars											
	Reinforcing bar and smooth rounds: cut-to-length and coiled											
Engineered Bar Products Division				●		●	●	●	●	●	●	●
Special-Bar-Quality	Round-cornered squares											
Merchant-Bar-Quality	Round bars											
	Bar finishing											
Vulcan Threaded Products	Threaded rod		●	●						●		●
Processing	Bar finishing											
	Cold drawn and heat treated bar											
Roanoke Bar Division		●	●	●		●	●	●	●	●		●
Merchant Steel	Channels, angles, and flat bars											
Light Structural Shapes	Rounds											
	Reinforcing Bar											
Steel of West Virginia			●	●			●	●		●		●
Wide Flange Beams	Fabrication and finishing											
Standard Beams	Cut-to-length											
Channels	Galvanizing and coating											
Specialty Steel Sections	Punching											
Flats												

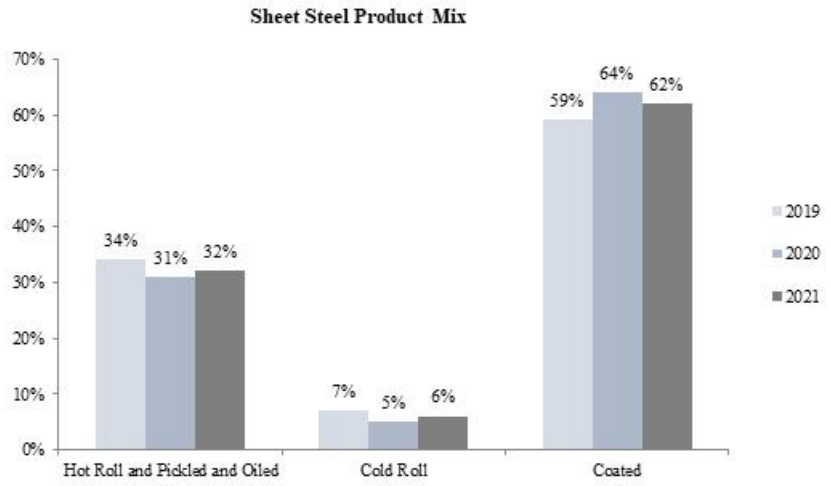
SHEET STEEL PRODUCTS

Our sheet steel products, consisting of hot roll, cold roll and coated steel products are currently produced by our Butler, Columbus, and Southwest-Sinton Flat Roll Divisions, and our numerous downstream coating lines, including The Techs, Heartland Flat Roll Division, and USS. Our sheet steel operations represented 73%, 69% and 70% of steel operations net sales in 2021, 2020, and 2019, respectively. We produced 7.6 million tons of sheet steel at these facilities in 2021 and 2020, and 7.8 million tons in 2019.

We shipped the following sheet steel products volumes at the following facilities (tons):

	2021	2020	2019
Butler, Columbus, and Southwest-Sinton Flat Roll Divisions	5,868,734	5,889,735	6,140,547
Steel Processing divisions	1,653,433	1,699,428	1,585,657

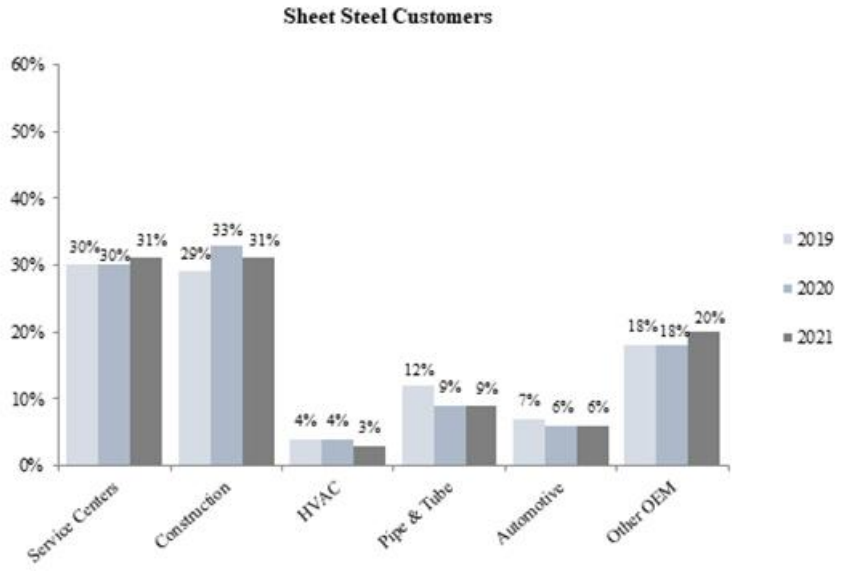
The following chart summarizes the types of sheet steel products sold by sales dollars, during the respective years, with cold roll and coated products representing value-added products:



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 and Southwest-Sinton Flat Roll Divisions 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 pipe and other pipe products. Galvanized flat roll products produced by our Butler, Columbus, and Southwest-Sinton 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. USS adds a complementary distribution channel for metallic coated and pre-painted flat roll steel coils to the roll-former market, serving the roofing and siding industry. This connects us to a rapidly growing industry segment with customers that do not historically purchase steel directly from a steel producer. USS provides continued growth to one of our highest-

margin flat roll steel products. Our sheet steel operations also provide a substantial portion (57% in 2021) of the sheet steel utilized in our steel fabrication operations.

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



LONG PRODUCTS

Our long steel products consist of a wide array of differentiating products produced by our four mills and Vulcan Threaded Products, Inc. (Vulcan), a downstream finishing operation.

Structural and Rail Division produces a variety of parallel flange beams and channel sections, as well as flat bars and large unequal leg angles, and reinforcing bar including custom cut-to-length, smooth bar, and coiled. 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 also utilize Structural and Rail Division's excess capacity to supply our Engineered Bar Products Division with pull-through volume of billets to utilize its excess rolling capacity.

Engineered Bar Products Division produces a broad range of engineered special-bar-quality (SBQ), merchant-bar-quality (MBQ) and other engineered round steel bars. We also have a bar finishing facility, which provides various downstream finishing operations for SBQ steel bars, including turning, polishing, straightening, chamfering, precision saw-cutting, and heat-treating capabilities. Vulcan produces threaded rod product, and cold drawn and heat treated bar, creating strategic pull-through demand to our Engineered Bar Products Division's special-bar-quality products.

Roanoke Bar Division produces merchant products, including channels, angles, flats, merchant rounds, and reinforcing steel bar. Excess steel billet production 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 produces a wide array of specialty shapes and light structural steel and frequently performs fabrication and finishing operations on those products, such as cutting to length, additional straightening, hole punching, shot blasting, welding, galvanizing, and coating. Through this array of products and additional finishing, we create custom finished products that are generally placed directly into our customers' assembly operations.

We shipped the following long products volumes at each of these facilities (tons):

	2021	2020	2019
Structural and Rail Division	1,933,433	1,663,915	1,469,356
Rail shipments (included above)	301,847	283,141	302,821
Engineered Bar Products Division	809,808	630,870	732,774
Roanoke Bar Division	595,879	505,387	529,479
Steel of West Virginia	356,353	328,998	358,827

Customers. The principal customers for our structural steel products are steel service centers, steel fabricators and various manufacturers. Service centers provide key distribution channels for the mills and value-add services to the end-user. A growing number of fabricators and end-users request to source some of their steel products directly from the mill. 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 (such as our New Millennium Building Systems), 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 solar panel structures, 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 Operations Segment 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 broad 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.

Metals Recycling Operations Segment

The metals recycling operations include both ferrous and nonferrous scrap metal processing, transportation, marketing, brokerage and scrap management services, strategically located primarily in close proximity to our steel mills and other end-user scrap consumers, throughout the United States, and Central and Northern Mexico. In August 2020, we completed the acquisition of Zimmer, S.A. de C.V. (dba OmniSource Mexico), a Mexican metals recycling company, which is an important part of our raw material procurement strategy for our new steel mill in Sinton, Texas. Our metals recycling operations accounted for 12% during 2021 and 11% of our consolidated net sales during 2020 and 2019. Export sales represented 11%, 10% and 9% of metals recycling segment net sales during 2021, 2020 and 2019, respectively.

We shipped the following from our metals recycling operations:

	2021	2020	2019
Ferrous metal total (gross tons)	5,442,478	4,591,881	4,627,214
Shipments to our steel mills	3,574,668	3,184,451	3,061,257
Percent of total to our steel mills	66%	69%	66%
Nonferrous metals (thousands of pounds)	1,093,472	977,882	1,068,208

We sell various grades of processed ferrous scrap primarily to steel mills and foundries. Ferrous scrap metal is the primary raw material for EAF's, including our steel mills. In addition, we sell various grades of nonferrous metals including copper, brass, aluminum, and stainless steel, to smelters, refineries, alloy manufacturers, specialty mills 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:

- Manufacturing industrial facilities, metal fabrication plants, and machine shops, 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 end-of-life items, such as automobiles, appliances, and machinery.

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 transactions conducted with the general public who sell material directly to our facilities, collected 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, 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. We design, install, and manage customized scrap management programs for industrial manufacturing companies.

Customers. We sell various grades of processed ferrous scrap to end-users, such as EAF 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 EAFs, 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, composition, quality, size, weight, and 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 EAF's and integrated steel mills, some of which, like us, are also vertically connected 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 pig iron, pelletized iron, hot briquetted iron (HBI), direct reduced iron (DRI), and other forms of processed iron.

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 non-residential construction market, as well as national accounts, such as large retail chains and e-commerce distribution channels.

Steel fabrication operations accounted for 10% of our consolidated net sales during 2021 and 9% in 2020 and 2019. We sold 789,000, 666,000, and 644,000 tons of joist and deck products during 2021, 2020, and 2019, respectively.

Products. Our steel fabrication operations produce steel non-residential building components, including steel joists, girders, and trusses, and steel deck. 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, cellular, composite floor, specialty architectural, floor systems, and bridge deck.

Customers and Markets. Our primary steel fabrication operations customers are non-residential steel fabricators, metal building companies, general construction contractors, developers, owners, brokers and governmental entities. Our customers are located throughout the United States, including national accounts. Our steel fabrication operations maintain approximately one-third of the total domestic steel joist and deck market for bookings, which grew significantly in 2021 to nearly 3.6 million tons from 2.4 million and 2.2 million tons during 2020 and 2019, respectively.

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, including their distribution warehouse facilities, 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, and machinery, and demolition scrap from obsolete structures, containers and machines.

Ferrous scrap typically comprises more than 80% of the metallic melt mix in EAF 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, historically 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. When scrap prices greatly accelerate, this can challenge one of the principal elements of an EAF based steel mill's traditional lower cost structure—the cost of its metallic raw material.

Iron Units. In addition to scrap, pig iron, DRI, HBI, and internally sourced liquid pig iron are used in our EAF steel mill production. During 2021, 2020, and 2019, we consumed 11.0 million, 10.4 million and 10.6 million tons, respectively, of metallic materials in our steelmaking furnaces, of which, iron units other than scrap, represented approximately 13% of the tons in 2021, 2020 and 2019.

Energy Resources

Electricity. Electricity is a significant input required in the EAFs in our steelmaking operations, representing approximately 4% of steel production costs of goods sold in 2021, 2020 and 2019. 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 Southwest-Sinton Flat Roll Division purchases electricity at current market prices. Our Structural and Rail Division purchases electricity at current market prices and through fixed price forward contracts.

Research and Development

Our research and development activities have consisted of efforts to expand, develop and improve our steel products and operating processes, such as our Southwest-Sinton Flat Roll Division, and our efforts to develop and improve alternative ironmaking technologies. 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 (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 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 then recycle what's possible, and appropriately dispose of the remaining unusable 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.

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 Corporate Governance and Nominating Committee Charters. The contents of our or any other website are not incorporated into this report.

ITEM 1A. RISK FACTORS

Many factors may 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, as may be exacerbated by the impact of the COVID-19 pandemic, described below represent our principal risks.

Global and National Risks Related to our Business

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 recession.

Our financial results are substantially dependent not only upon overall economic conditions in the United States and globally, including North America, 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 or conditions, including political actions, trade policies or restrictions, such as the United States-Mexico-Canada Agreement (USMCA), proposed or actual changes in tax laws, such as those recently introduced, terrorism, acts of war or hostility, natural disasters, or pandemics, epidemics, widespread illness or other health issues, such as COVID-19, could result in changing economic conditions in the United States and globally, disruptions to or slowdowns in our business, our supply chain, or our global or domestic industry, or those of our customers or suppliers upon whom we are dependent. 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 and have recently experienced supply chain disruptions, such as the electronic chip shortage within the automotive industry. Therefore, these industries may experience their own fluctuations in demand for our products based on such things as economic conditions, supply chain disruptions, raw material and energy costs, consumer demand, the rate of inflation 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. A downturn in our industry or the industries we serve may adversely affect 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, may 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 customers and suppliers. 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 may 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 customers and suppliers. 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.

Global steelmaking overcapacity and imports of steel into the United States may adversely affect United States steel prices, which, together with increased scrap prices, 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, may exert downward pressure on United States steel and steel products prices, which adversely affects our business, results of operations, financial condition and cash flows. Fluctuations in the value of the dollar can also affect imports, as a strong United States dollar makes imported products less expensive, potentially resulting in more imports of steel products into the United States by our foreign competitors. Furthermore, recent additions of domestic steel capacity as well as anticipated additional domestic steel capacity could increase this global overcapacity. This, in turn, has led to and may further lead to increased domestic demand for ferrous scrap resulting in increased scrap prices. Our results of operations, financial condition and cash flows are driven primarily from the metal spread achieved from the price we sell steel and steel products compared to the price of our metallic raw materials, including scrap. During prolonged periods of steel and steel products overcapacity, leading to lower selling prices, combined with high demand for scrap and raw materials, leading to higher buying prices, our metal spreads could be compressed, which may adversely affect our business, results of operations, financial condition and cash flows.

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, at times due to 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. 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 imports into the United States tends to occur at depressed prices when foreign steelmaking 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 tariffs pursuant to Section 232 of the Trade Expansion Act of 1962, as amended (Section 232), other measures to curb unfair trade such as duties or quotas, and the renegotiation of trade agreements with other countries, including the USMCA, have decreased the volume of steel and steel products imports, domestic steel and steel products prices remain negatively impacted by excessive imports of steel and steel products. Should the Section 232 tariffs, duties or quotas expire or be relaxed, repealed or circumvented by importers of steel and steel products, or should trade agreements be renegotiated, downward pressure may be exerted on United States steel and steel products prices, which may adversely affect our business, results of operations, financial condition and cash flows.

Pandemics, epidemics, widespread illness or other health issues, such as the COVID-19 pandemic may adversely affect our business, results of operations, financial condition, cash flows, liquidity, and stock price.

Pandemics, epidemics, widespread illness or other health issues, such as a resurgence of COVID-19, may adversely affect our business, results of operations, financial condition, cash flows, liquidity and stock price. The COVID-19 pandemic has resulted in various government actions globally, including United States federal and state governmental actions designed to slow the spread of the virus and its impacts. These actions have included quarantines, "shelter in place,” "stay at home” and "social distancing” orders, business shutdowns and restrictions, travel restrictions, and other mitigation efforts, which, among other things, have impacted and may further impact demand for our products, our supply chain, and our employees. These measures, along with further mandatory requirements or voluntary measures by businesses and individuals, have impacted and may further impact our working conditions, productivity and operations, as well as those of our customers and suppliers. These mitigation measures have also adversely affected and may continue to adversely affect the United States and global economies.

Additionally, while our operations have not been curtailed, virus variants that are more contagious or more severe could reduce demand for our products and thus, reduce the productivity of our operations and adversely affect our business, results of operations, financial condition and cash flows. We or certain of our customers and suppliers may also experience supply chain disruptions, such as those in the automotive industry, which may adversely affect our operations. Reduced demand for our products or raw material supply availability due to shutdowns or slowdowns in businesses may further adversely affect our volumes and margins, results of operations, financial condition and cash flows. The COVID-19 pandemic has also caused volatility in the financial and capital markets and led to new and expanded governmental programs and initiatives, which affected and may further affect our stock price.

There remains uncertainty regarding the economic and industry impacts, including duration, from the COVID-19 pandemic and the measures introduced to curtail its spread and its impacts. In the event vaccinations for COVID-19 have unanticipated side-effects, are not widely administered, have more limited than expected benefits or are not as effective against new variants, the effects of COVID-19 on the economy and our business could worsen. Although these highly uncertain future impacts cannot be reasonably estimated at this time, general economic conditions, business closures, slow payments from customers, increased bankruptcies, and labor restrictions may adversely affect our business, results of operations, financial condition, cash flows, liquidity and stock price.

Industry Risks Related to our Business

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, supply chain disruptions, periods of heightened inflation, and currency fluctuations in the United States or globally may decrease the demand for our products or increase the amount of imports of steel into the United States, which may decrease our sales, margins and profitability.

Volatility and major fluctuations in prices and availability of scrap metal, scrap substitutes, supplies, 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 and machinery, and demolition scrap from obsolete structures, containers, and machinery. The prices for scrap are subject to market forces largely beyond our control, including demand by United States and foreign steel producers of which there has been recent capacity additions and expected further additions, freight costs and speculation. The scrap metal recycling industry has historically been, and is expected to remain, highly cyclical and 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 EAF mills. However, given environmental considerations of investors, customers and regulators, additional EAF mills may be constructed, leading to increased demand in scrap possibly resulting in higher scrap prices. While our vertical integration into the metals recycling business and our liquid pig-iron operations are expected to enable us to continue being a cost-effective supplier to our own steelmaking operations, for some of our metallics requirements, we still rely on other metallics and raw material suppliers, as well as upon general industry supply conditions for the balance of our needs.

The availability and prices of raw materials and supplies, particularly those with positive environmental attributes, may also be negatively affected by new, existing, or changing laws, regulations, sanctions or embargoes, including those that may impose output limitations or higher costs associated with climate change or GHG 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, all of which may be heighted during times of war or hostilities, including those occurring in Eastern Europe as it relates to global pig iron supply. As a major producer of galvanized steel products, we purchase and consume a large amount of zinc, which if purchased at high prices, may adversely affect our profit margins. Any inability to secure a consistent, cost-effective and timely supply of our raw materials and supplies may adversely affect our business, financial condition, results of operations and cash flows.

Additionally, our inability to pass on all or any substantial part of any cost increases, whether due to positive environmental attributes, inflation, supply and demand imbalances, or otherwise, or to provide for our customers' needs because of the potential unavailability of raw materials or supplies, may result in production slowdowns or curtailments or may otherwise adversely affect our business, financial condition, results of operations and cash flows.

The cost and availability of electricity, natural gas, oil and other energy resources are subject to volatile market conditions.

Steel producers like us consume large amounts of energy to melt ferrous scrap in EAFs 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, including renewable or other clean energy sources, are subject to regulation and 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 adversely affect our costs or the costs of many of our customers.

Increased environmental, GHG emissions and sustainability considerations or regulations could affect demand for our products and add significant costs on both our steelmaking and metals recycling operations.

Investors, customers and regulators have increased their focus on the environment, GHG emissions and sustainability. We are committed to the environment and sustainability, and recently announced goals in furtherance of that commitment. We believe that achievement of these goals will comport with expectations of our investors and customers, but certain investors and customers may have differing requirements. To achieve these goals, our operational costs may increase and we may have additional capital expenditures, some of which we may not be able to pass along to our customers. Any failure to timely meet these goals may have an adverse effect on our business, results of operations and stock price.

Additionally, the United States government, various other governmental agencies, regulators, investors or other groups may introduce, request or require environmental monitoring, disclosures or regulations 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 or disclosure requirement 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, regulations or demands concerning the environment, climate change, GHG emissions and sustainability. Any adopted future 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, or could affect our environmental disclosures for any allowances, offsets or credits. We may see an increase in costs relating to our assets that emit GHGs as a result of these initiatives, which may impact our operations directly or through our customers and suppliers. 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.

Compliance with and changes in environmental and remediation requirements may 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 adversely affect 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 in our operations;
- natural resource protections; and
- the protection of our employees' health and safety.

Compliance with environmental laws and regulations, which affect our steelmaking, metals recycling, liquid pig-iron, 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 may 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 may adversely affect 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 strive 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 adversely affect our results of operations and financial condition.

Our 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 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 feed materials for the shredders operated by our metals recycling operations include 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, to address emerging and newly-regulated contaminants such as per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane, 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.

Operational and Commercial Risks Related to our Business

We may face significant price and other forms of competition from other steel producers, scrap processors and alternative materials, which may adversely affect our business, financial condition, results of operations and cash flows.

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 or customer demands, 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 may adversely affect our business, financial condition, results of operations and cash flows.

Availability of an adequate source of supply of scrap 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 which may adversely affect our results of operations and financial condition. In addition, a slowdown of industrial production in the United States reduces the supply of industrial grades of metal to the metals recycling industry, resulting in our having less recyclable metal available to process and sell. Further, additional EAF steel mill construction could increase the demand for scrap, potentially resulting in higher scrap prices or periods of decreased scrap supply. Any inability to secure scrap for our EAF steel mills could adversely affect our business, results of operations, financial condition and cash flows.

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, all of which may be heightened during times of war or hostilities, 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 and supplier information, and personally identifiable information. 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. Our customers and suppliers may also store certain of our sensitive information on their information technology systems, which if breached or attacked, could likewise expose our sensitive information. Similarly, information system vendors and software suppliers may experience a cybersecurity or information technology breach that exposes our systems or sensitive data. Any of these cybersecurity and information technology breaches or disruptions may result in reputational harm and may adversely affect our business, results of operations, financial condition and cash flows.

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 may adversely affect our reputation, customer and supplier 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, including the cost of insurance. 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 maintain an information security risk insurance policy to mitigate the impact of cybersecurity threats and we did not incur any net expenses from information security breach penalties and settlements during 2021, 2020, or 2019.

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 may involve some or all of the following risks:

- the risk of entering product, domestic, or foreign markets, in which we have little experience;
- the risk of a newly constructed facility 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 facility;
- the risk of expected markets, products, customers and demand for products produced by a new facility 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 or management attention 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.

As operations commence at our new Southwest-Sinton Flat Roll Division in Sinton, Texas, we could face additional risks related to human capital attraction, development and retention, as well as start-up inefficiencies. Additionally, customer, product, or geographic markets we expect to serve may not be as profitable as currently expected, which may adversely affect our prospects, business, financial condition, results of operations and cash flows.

These expansions or transactions might be required for us to remain competitive, but we may not be able to complete any such expansions or 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 and cash flows may be adversely affected.

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

We are involved from time to time in various 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 and other anti-bribery laws, 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 may adversely affect our business, financial condition, results of operations and cash flows.

Interruptions in our production capabilities may adversely affect our production costs, products available for sale and earnings during the affected period. In addition to equipment failures, our facilities are 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 EAFs, 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. Further, we may experience start-up or other operational interruptions at our new Southwest-Sinton Flat Roll Division. 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 may adversely affect our business, financial condition, results of operations and cash flows.

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

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. Governmental agencies, non-governmental organizations, and members of the public sometimes resist the establishment of certain types of facilities in their communities. 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 may adversely affect our business, financial condition, results of operations and cash flows.

Our senior unsecured 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 unsecured 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. A breach of any of the restrictions or covenants could cause a default under our senior unsecured 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 unsecured credit facility, we are required to maintain certain financial covenants. 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.

Impairment charges may 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, long-lived tangible and intangible assets and right of use 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 that adversely affect our results of operations. There can be no assurances that market dynamics or other factors may not result in future impairment charges.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

The following table describes our significant properties as of December 31, 2021. 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 significant 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	993	—
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	1,387	—
Southwest-Sinton Flat Roll Division	Sinton, TX	Flat Roll Steel Mill and Coating Facility **	2,487	—
The Techs	Pittsburgh, PA	Flat Roll Steel Coating Facilities	16	2
Heartland Flat Roll Division	Terre Haute, IN	Flat Roll Steel Cold-Rolling and Coating Facility	193	—
United Steel Supply	IN, MS, OR, and TX	Distributor of Painted Galvalume® Flat Roll Steel	26	3
Structural and Rail Division	Columbia City, IN	Structural and Rail Steel Mill	692	—
Engineered Bar Products 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	WV, KY, and TN	Specialty Shapes Steel Mill and Finishing and Coating Facilities	139	6
Metals Recycling Operations Segment				
OmniSource:				
Alabama	Birmingham, AL	Ferrous Scrap Processing	—	15
Indiana	Multiple Cities	Ferrous and Nonferrous Scrap Processing	406	26
Michigan	Multiple Cities	Ferrous and Nonferrous Scrap Processing	186	—
Mississippi	Multiple Cities	Ferrous and Nonferrous Scrap Processing	54	13
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	—	10
Tennessee	Multiple Cities	Ferrous and Nonferrous Scrap Processing	65	—
Texas	Multiple Cities	Ferrous and Nonferrous Scrap Processing	75	—
Virginia	Multiple Cities	Ferrous and Nonferrous Scrap Processing	121	—
Mexico	Multiple Cities	Ferrous and Nonferrous Scrap Processing	—	37
Steel Fabrication Operations Segment				
New Millennium Building Systems:				
Joist and Deck Operations	Butler, IN	Steel Joist and Deck Fabrication Facility	156	—
Joist Operations	Fallon, NV	Steel Joist Fabrication Facility	53	—
Joist and Deck Operations	Hope, AR	Steel Joist and Deck Fabrication Facility	245	4
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	113	—

The company's corporate headquarters is in Fort Wayne, Indiana on 20 owned acres. Our copper rod and wire facility, a controlled subsidiary, is in New Haven, Indiana on 35 owned acres.

* Our 2021 steel mill production utilization was 91% of our estimated annual steelmaking capability.

** Southwest-Sinton Flat Roll Division is nearing the conclusion of construction, with certain coating operations commenced in late 2021, and the rest of operations commencing in early 2022.

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, exclusive of interest and costs, which did not exceed $1 million in aggregate, as of December 31, 2021.

ITEM 4. MINE SAFETY DISCLOSURES

None.

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 18, 2022, we had 191,299,162 shares of common stock outstanding and held beneficially by approximately 25,200 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 1,365) is not representative of the number of beneficial holders.

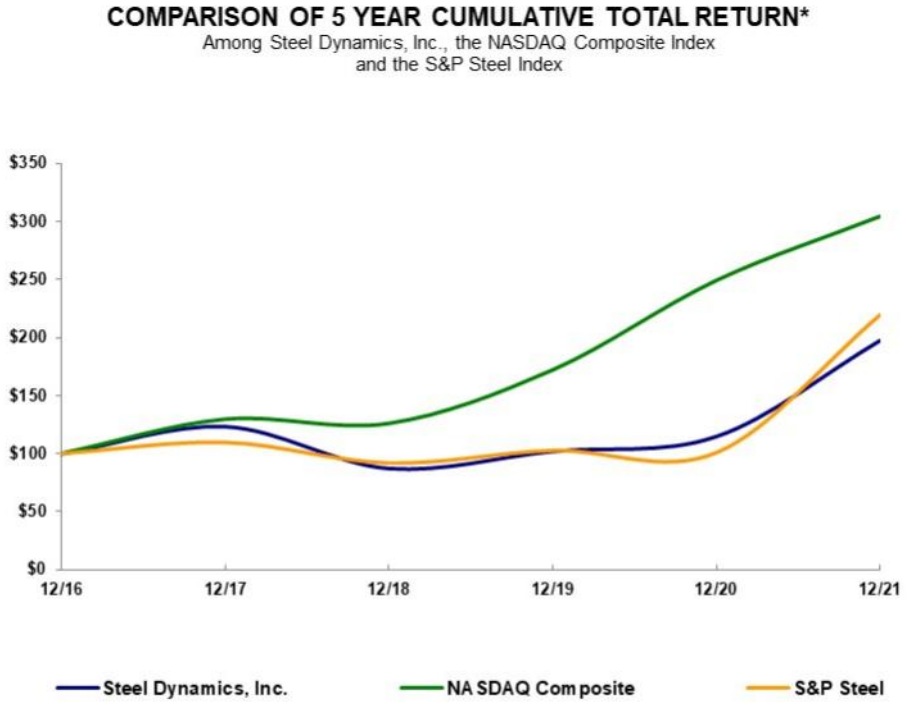
Issuer Purchases of Equity Securities

We purchased the following equity securities registered by us pursuant to Section 12 of the Exchange Act during the three months ended December 31, 2021.

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*) (1)
Quarter ended December 31, 2021				
October 1-31	1,344,894	$ 62.22	1,344,894	$ 629,521
November 1-30	2,388,125	64.50	2,388,125	475,491
December 1 - 31	1,521,094	60.56	1,521,094	383,378
	5,254,113		5,254,113	

(1) On July 6, 2021, we announced that our board of directors had authorized a share repurchase program of up to $1.0 billion of our common stock.

Total Return Graph



*$100 invested on 12/31/16 in stock or index, including reinvestment of dividends.
Fiscal year ending December 31.

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ITEM 6. SELECTED FINANCIAL DATA [RESERVED]

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 domestic or global economies, conditions in steel and recycled metals market places, Steel Dynamics' revenues, costs of purchased materials, future profitability and earnings, and the operation of new, existing or planned 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) domestic and global economic factors; (2) global steelmaking overcapacity and imports of steel, together with increased scrap prices; (3) pandemics, epidemics, widespread illness or other health issues, such as the COVID-19 pandemic; (4) the cyclical nature of the steel industry and the industries we serve; (5) volatility and major fluctuations in prices and availability of scrap metal, scrap substitutes, and our potential inability to pass higher costs on to our customers; (6) cost and availability of electricity, natural gas, oil, or other energy resources are subject to volatile market conditions; (7) increased environmental, greenhouse gas emissions and sustainability considerations or regulations; (8) compliance with and changes in environmental and remediation requirements; (9) significant price and other forms of competition from other steel producers, scrap processors and alternative materials; (10) availability of an adequate source of supply of scrap for our metals recycling operations; (11) cybersecurity threats and risks to the security of our sensitive data and information technology; (12) the implementation of our growth strategy; (13) litigation and legal compliance; (14) unexpected equipment downtime or shutdowns; (15) governmental agencies may refuse to grant or renew some of our licenses and permits; (16) our senior unsecured credit facility contains, and any future financing agreements may contain, restrictive covenants that may limit our flexibility; and (17) the impacts of impairment charges.

More specifically, we refer you to our more detailed explanation of these and other factors and risks that may cause such predictive statements to turn out differently, as set forth in 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. 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 income.

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 (Income) Expense, 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.

2021 Overview

During 2021, domestic steel demand was strong throughout the year, supported most significantly by the construction, automotive, and industrial sectors. Customer steel inventories also remained historically low, as steel supply was not sufficient to meet robust demand requirements during much of the year. This strong market environment drove significantly higher steel selling prices, resulting in meaningful steel segment metal spread expansion. Our metals recycling operations benefited from improved domestic steel mill utilization rates in 2021, driving increased shipments, pricing, and metal spread. The non-residential construction market remained strong, driving increased shipments and order backlog, pricing and metal spread in our steel fabrication operations. The symbiotic relationship among our three operating segments resulted in record company-wide financial and operational performance during 2021.

We achieved record 2021 operational and financial results.

- Record steel and steel fabrication shipments of 11.2 million and 789,000 tons, respectively
- Record net sales of $18.4 billion
- Record operating income of $4.3 billion and net income of $3.2 billion
- Record steel, steel fabrication, and metals recycling operating income of $4.4 billion, $365.3 million and $182.0 million, respectively
- Record cash flow from operations of $2.2 billion
- Share repurchases of $1.1 billion of our common stock, representing 8% of our outstanding shares

Consolidated operating income for 2021 increased $3.5 billion, more than four times, to $4.3 billion, compared to $847.1 million in 2020. Net income attributable to Steel Dynamics, Inc. for 2021 increased $2.7 billion, more than four and a half times, to $3.2 billion, compared to 2020. Diluted earnings per share attributable to Steel Dynamics, Inc. was $15.56 for 2021, compared to $2.59 for 2020.

Refer to Item 7. *Management's Discussion and Analysis of Financial Condition and Results of Operations* in Part II of our Annual Report on Form 10-K for the year ended December 31, 2020, for additional information regarding results of operations for the year ended December 31, 2020, as compared to the year ended December 31, 2019, and segment operating results for 2020 as compared to 2019.

Segment Operating Results (*dollars in thousands*)

	Years Ended December 31,		
	2021	% Change	2020
Net sales			
Steel Operations	$ 14,023,133	88%	$ 7,455,637
Metals Recycling Operations	4,590,121	91%	2,403,140
Steel Fabrication Operations	1,764,710	95%	906,364
Other	1,266,971	153%	501,187
	21,644,935		11,266,328
Intra-company	(3,236,085)		(1,664,846)
	$ 18,408,850	92%	$ 9,601,482
Operating income (loss)			
Steel Operations	$ 4,360,488	390%	$ 889,480
Metals Recycling Operations	181,986	452%	32,991
Steel Fabrication Operations	365,250	203%	120,575
Other	(551,725)	(193)%	(188,525)
	4,355,999		854,521
Intra-company	(54,894)		(7,379)
	$ 4,301,105	408%	$ 847,142

Steel Operations Segment

Steel operations consist of our electric arc furnace steel mills, producing steel from ferrous scrap and scrap substitutes, utilizing continuous casting, automated rolling mills, and numerous value-added downstream steel coating and processing operations. 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. Steel operations accounted for 72% and 74% of our consolidated net sales during 2021 and 2020, respectively. See Item 1. *Business* for further information on Steel Operations segment operations.

Steel Operations Shipments (tons):

	Years Ended December 31,		
	2021	% Change	2020
Total shipments	11,217,640	5%	10,718,333
Intra-segment shipments	(1,106,525)		(1,001,396)
Steel Operations Segment shipments	10,111,115	4%	9,716,937
External shipments	9,559,617	3%	9,257,334



Segment Results 2021 vs. 2020

During 2021, domestic steel consumption was strong from the automotive, construction, and industrial sectors. These market dynamics, along with historically low customer inventories throughout the supply chain, drove increased shipments and product pricing for our steel operations compared to 2020, which was negatively impacted by COVID-19 most notably during the second quarter of the year. Steel operations segment shipments increased 4% in 2021, as compared to 2020, with average selling prices increasing 81%, or $621 per ton. Net sales for the steel operations were 88% higher in 2021 when compared to 2020, due to these increased average steel selling prices and volumes.

Metallic raw materials used in our electric arc furnaces represent our single most significant steel manufacturing cost, generally comprising approximately 55% to 65% of our steel mill operations' manufacturing costs. Our metallic raw material cost consumed in our steel mills increased $179 per net ton, or 67%, in 2021 compared to 2020.

As a result of average selling prices increasing more than scrap costs, metal spread (which we define as the difference between average steel mill selling prices and the cost of ferrous scrap consumed in our steel mills) increased 86% in 2021 compared to 2020. Due to this metal spread expansion, coupled with the 4% increase in steel segment shipments, operating income for the steel operations increased nearly four times, to $4.4 billion, in 2021 compared to 2020.

Metals Recycling Operations Segment

Metals recycling operations includes both ferrous and nonferrous scrap metal processing, transportation, marketing, brokerage, and scrap management services. Our steel mills utilize a large portion (approximately 66% in 2021 and 69% in 2020) of the ferrous scrap sold by our metals recycling operations 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 12% and 11% of our consolidated net sales during 2021 and 2020, respectively.

Metals Recycling Operations Shipments:

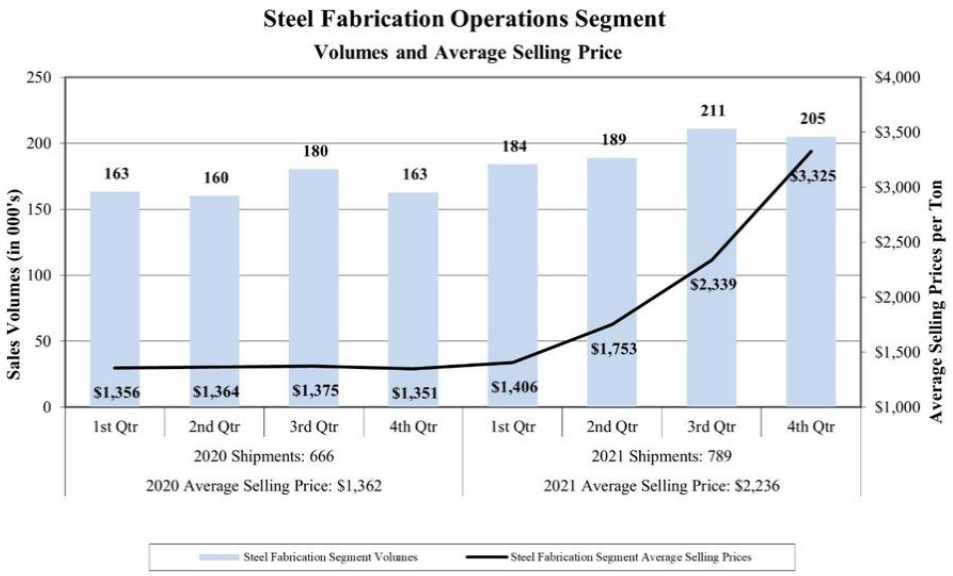
	Years Ended December 31,		
	2021	% Change	2020
Ferrous metal (gross tons)			
Total	5,442,478	19%	4,591,881
Inter-company	(3,574,668)	(12)%	(3,184,451)
External shipments	1,867,810	33%	1,407,430
Nonferrous metals (thousands of pounds)			
Total	1,093,472	12%	977,882
Inter-company	(135,914)	7%	(146,753)
External shipments	957,558	15%	831,129

Segment Results 2021 vs. 2020

Our metals recycling operations benefited from strong steel market demand during 2021, driving increased domestic steel mill utilization and strong ferrous scrap shipments throughout the year. Domestic steel mill utilization rates increased to approximately 81% in 2021 from 68% in the prior year, which was depressed due to the impact of COVID-19 during most notably the second quarter of 2020. Net sales for our metals recycling operations increased 91% in 2021 as compared to 2020, driven by increased shipments, including a full year of activity related to our August 2020 acquired Mexican scrap operations, and pricing. Ferrous scrap average selling prices increased 73% during 2021 compared to 2020, while nonferrous average selling prices increased 53%. Ferrous metal spread (which we define as the difference between average selling prices and the cost of purchased scrap) increased 35%, while nonferrous metal spread increased 61% in 2021 compared to 2020. Metals recycling operations operating income in 2021 of $182.0 million improved $149.0 million, or four and a half times, from 2020, due to increased ferrous and nonferrous shipments and metal spread.

Steel Fabrication Operations Segment

Steel fabrication operations include seven 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 10% and 9% of our consolidated net sales during 2021 and 2020, respectively.



Segment Results 2021 vs. 2020

Our steel fabrication operations benefited in 2021 from a robust non-residential construction market, as order activity was strong throughout the year, resulting in record shipments, as well as a record customer order backlog at the end of 2021, and higher selling prices, due to the strength of warehouse construction related to distribution and data centers. Net sales for the segment increased 95% during 2021, compared to 2020, as shipments increased 19%, and average selling prices increased 64%, or $874 per ton.

The purchase of various steel products is the largest single cost of production for our steel fabrication operations, historically representing approximately two-thirds of the total cost of manufacturing, however closer to three-fourths in 2021 with the increased steel costs. The average cost of steel consumed increased 82% in 2021, as compared to 2020, consistent with increased steel selling prices in our steel operations. As a result of selling prices per ton increasing more than steel input costs per ton, metal spread (which we define as the difference between average selling prices and the cost of purchased steel) increased 45% in 2021 compared to 2020. This expanded metal spread, coupled with record shipments, resulted in record operating income of $365.3 million in 2021 compared to $120.6 million in 2020.

Other Operations

Consolidated Results 2021 vs. 2020

Selling, General and Administrative Expenses. Selling, general and administrative expenses increased 35%, or $166.5 million, to $644.0 million during 2021 compared to 2020, representing 3.5% and 5.0% of net sales, respectively. This increase relates primarily to increased 2021 profitability, and increased Southwest-Sinton Flat Roll Division start-up expenses of $70.6 million.

Profit sharing expense was $388.1 million in 2021 (including $19.6 million of additional company-wide special compensation awarded to all non-executive team members in recognition of the company's exceptional annual performance), an increase of $326.4 million from the $61.7 million earned during 2020. The company-wide profit sharing plan represents 8% of pretax earnings.

Interest Expense, net of Capitalized Interest. During 2021, interest expense of $57.2 million decreased $37.7 million from the $94.9 million incurred during 2020, due to decreased interest expense related to our June 2020 and October 2020 refinancing of $1.6 billion of high yield senior notes with lower interest rate senior notes, and a $26.5 million increase in capitalized interest in 2021, related to the construction of our new Southwest-Sinton Flat Roll Division.

Income Tax Expense. Income tax expense of $962.3 million in 2021, at an effective income tax rate of 22.9%, increased 615% from the $134.7 million, at an effective income tax rate of 19.1%, during 2020, consistent with increased income before income taxes. The lower effective tax rate in 2020 related primarily to the release of a deferred tax asset valuation allowance and increased federal tax credits. Refer to Note 4. *Income Taxes* to the consolidated financial statements elsewhere in this report for additional information.

Included in the balance of unrecognized tax benefits at December 31, 2021, are potential benefits of $16.8 million that, if recognized, would affect the 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, 2021, we recognized benefits from the decrease of interest expense and penalties of $205,000, net of tax. In addition to the unrecognized tax benefits noted above, we accrued $561,000 for the payment of interest and penalties at December 31, 2021.

We file income tax returns in the United States federal jurisdiction as well as income tax returns in various state jurisdictions. The tax years 2018 through 2020 remain open to examination by the Internal Revenue Service and 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 $3.3 million, as a result of the expiration of the statute of limitations and other federal and state income tax audits.

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 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, including expansion projects, principal and interest payments related to our outstanding indebtedness (no significant principal payments until 2024), dividends to our shareholders, and potential stock repurchases and acquisitions or investments. We have met and intend to continue to meet these liquidity requirements primarily with available cash and cash provided by operations, and long-term borrowings, and we also have availability under our unsecured Revolver. Our liquidity at December 31, 2021, is as follows (in thousands):

Cash and equivalents	$ 1,243,868
Unsecured revolver availability	1,187,960
Total liquidity	$ 2,431,828

Our total outstanding debt remained consistent at $3.1 billion during 2021. 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 33.0% at December 31, 2021, from 41.6% at December 31, 2020, due to the growth in stockholders' equity from undistributed 2021 earnings.

Our unsecured credit agreement has a senior unsecured revolving credit facility (Facility), which provides a $1.2 billion unsecured Revolver, and matures in December 2024. Subject to certain conditions, we have the opportunity to increase the Facility size by $500.0 million. The unsecured 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 to incur indebtedness and permit liens on certain assets. Our ability to borrow funds within the terms of the unsecured Revolver is dependent upon our continued compliance with the financial and other covenants. At December 31, 2021, 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 debt to capitalization ratio of not more than 0.60:1.00 must be maintained. At December 31, 2021, our interest coverage ratio and debt to capitalization ratio were 45.04:1.00 and 0.33:1.00, respectively. We were, therefore, in compliance with these covenants at December 31, 2021, and we anticipate we will continue to be in compliance during the next twelve months.

Working Capital. We generated cash flow from operations of $2.2 billion in 2021. Operational working capital (representing amounts invested in trade receivables and inventories, less current liabilities other than income taxes payable and debt) increased $1.7 billion to $3.3 billion at December 31, 2021, due primarily to increased accounts receivable and inventory, consistent with increased net sales, inventory volumes and associated costs.

Capital Investments. During 2021, we invested $1.0 billion in property, plant and equipment, primarily within our steel operations segment, compared with $1.2 billion invested during 2020. Of these amounts, $831.0 million related to our Southwest-Sinton Flat Roll Steel Division in 2021, and $927.7 million in 2020. We enter 2022 with ample liquidity of $2.4 billion to provide for our currently planned 2022 capital requirements.

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 4% to $0.26 per share in the first quarter 2021 (from $0.25 per share in 2020), resulting in declared cash dividends of $210.9 million during 2021, compared to $210.5 million during 2020. We paid cash dividends of $213.0 million and $209.2 million during 2021 and 2020, 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.

Other. In February 2020, our board of directors authorized a share repurchase program of up to $500.0 million of our common stock. This program was exhausted in July 2021. In July 2021, our board of directors authorized an additional share repurchase program of up to $1.0 billion of our common stock. Under the share repurchase programs, purchases 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. The share repurchase programs do not have an expiration date. We repurchased 16.9 million shares of our common stock for $1.1 billion during 2021. As of December 31, 2021, we had $383.4 million remaining available to purchase under the 2021 share repurchase 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 borrowings under our Revolver, if necessary, 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 noted above.

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.

Long-term debt and estimated interest. Refer to Note 3. *Long-Term Debt* to the consolidated financial statements elsewhere in this report for our long-term debt maturities. Estimated interest payments on our senior unsecured notes were determined based on their outstanding balances through maturity at their contractual interest rates, as detailed in Note 3. Estimated interest payments also include a 0.175% commitment fee on our available Revolver, and an average interest rate of 1.9% on our other debt of $105.4 million. Our estimated interest payments are $100.8 million, $99.1 million, $98.4 million, $80.3 million, $75.0 million, for the years 2022 through 2026, respectively, and $447.7 million thereafter.

Purchase obligations. We have commitments for the purchase of commodities such as electricity, water, natural gas and its transportation services, fuel, air products, zinc, and electrodes. Refer to Note 9. *Commitments and Contingencies* to the consolidated financial statements elsewhere in this report for this information.

Construction commitments. We have firm contracts with various vendors for the completion of certain construction projects at our various divisions at December 31, 2021. Refer to Note 9. *Commitments and Contingencies* to the consolidated financial statements elsewhere in this report for this information.

Lease commitments. We have entered into operating leases relating principally to transportation and other equipment, and some real estate. Refer to Note 12. *Leases* to the consolidated financial statements elsewhere in this report for this information.

Unrecognized tax benefits. 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. Refer to Note 4. *Income Taxes* to the consolidated financial statements elsewhere in this report for this information.

Other Matters

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 2021, we incurred costs related to the monitoring and compliance of environmental matters in the amount of approximately $44.5 million and capital expenditures related to environmental compliance of approximately $37.0 million, of which approximately $33.8 million is related to the construction of our new Southwest-Sinton Flat Roll Division. Of the costs incurred during 2021 for monitoring and compliance, approximately 72% 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 $86,000 at all of our facilities during 2021. We have an accrual of $5.8 million recorded for environmental remediation related to our metals recycling operations, and $2.6 million related to our idled 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 Credit Losses. 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 based on historical experience, 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 judgments 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 credit losses for accounts receivable is based on our reasonable estimate of known credit risks and historical experience, adjusted for current and anticipated economic and other pertinent factors affecting our customers, that may differ from historical experience.

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 for any reason, 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 or steel substrate 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 environment 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, 2021, and 2020, the company reported $7.1 million and $7.2 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, 2021 and 2020, 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.

Events occurred during the fourth quarter of 2020, that represented impairment indicators related to the company's noncore oil and gas joint ventures. Therefore, the company undertook a fourth quarter 2020 assessment of the recoverability of the carrying amounts of these joint ventures' property, plant and equipment. Based on the joint ventures' outlook at the time of this 2020 assessment, the company concluded that the carrying amounts of its property, plant and equipment were fully impaired. This assessment resulted in a total non-cash asset impairment charge of $19.4 million, which include amounts attributable to noncontrolling interests of $2.4 million, that in total served to reduce net income attributable to Steel Dynamics, Inc. by $12.0 million for the year ended December 31, 2020.

Goodwill.

Our goodwill, relating to various business combinations, consisted of the following at December 31 (in thousands):

	2021	2020
Steel Operations Segment	$ 272,133	$ 272,133
Metals Recycling Operations Segment	179,777	183,168
Steel Fabrication Operations Segment	1,925	1,925
	$ 453,835	$ 457,226

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 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 for some years 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 of the reporting unit, there is no impairment. If the carrying amount exceeds the fair value, we recognize an impairment loss in the amount by which 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.

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 2021, 2020, and 2019 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 the 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. 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.

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. A 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.

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; however, we have not done so during 2021, 2020, or 2019.

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, 2021 (in thousands):

	Interest Rate Risk			
	Fixed Rate		Variable Rate	
	Principal	Average Rate	Principal	Average Rate
Expected maturity date:				
2022	$ 2,360	4.5%	$ 94,814	1.6%
2023	2,081	4.2	-	
2024	401,621	2.8	-	
2025	401,562	2.4	-	
2026	401,481	5.0	-	
Thereafter	1,851,503	3.0	-	
Total debt outstanding	$ 3,060,608	3.2%	$ 94,814	1.6%
Fair value	$ 3,165,269		$ 94,814	

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, 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, water, natural gas and its transportation services, fuel, air products, zinc, and electrodes. Refer to Note 9. *Commitments and Contingencies* to the consolidated financial statements elsewhere in this report for additional information.

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, 2021, we had a cumulative unrealized loss associated with these financial contracts of $8.0 million, substantially all of which have settlement dates in 2022. We believe the customer contracts associated with the financial contracts will be fully consummated. Refer to Note 7. *Derivative Financial Instruments* to the consolidated financial statements elsewhere in this report for additional information.

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.

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, 2021, the end of the period covered by this report.

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

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and the Board of Directors of 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, 2021, 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, 2021, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of Steel Dynamics, Inc. as of December 31, 2021 and 2020, the related consolidated statements of income, comprehensive income, equity, and cash flows for each of the three years in the period ended December 31, 2021, and the related notes and our report dated February 28, 2022 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 28, 2022

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Stockholders and the Board of Directors of 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, 2021 and 2020, the related consolidated statements of income, comprehensive income, equity and cash flows for each of the three years in the period ended December 31, 2021, 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, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021, in conformity with 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, 2021, 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 28, 2022 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.

Critical Audit Matter

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

Valuation of Goodwill

Description of the Matter	At December 31, 2021, the Company's goodwill was approximately $454 million. As discussed in Note 1 of the consolidated financial statements, the Company performs an impairment test for goodwill at least annually or when indicators of impairment exist.

Auditing management's goodwill impairment test was complex and judgmental due to the significant estimation required to determine the fair value of the reporting units. In particular, the fair value estimate was sensitive to significant assumptions, such as estimates of future cash flows and changes in the risk-adjusted discount rate, which are affected by expectations about future market or economic conditions and the impact of planned business and operation strategies.

How We Addressed the Matter in Our Audit

We obtained an understanding, evaluated the design and tested the operating effectiveness of controls over the Company's goodwill impairment review process, including controls over management's review of the assumptions and methodologies used in the calculation of the fair value of the reporting units, as well as the Company's review of the completeness and accuracy of the data used in the Company's analysis.

To test the estimated fair value of each of the Company's reporting units, we performed audit procedures that included, among others, testing the underlying assumptions used in the Company's analysis, testing the completeness and accuracy of the underlying estimates of future cash flows used by management and testing the calculation of the fair value of each reporting unit. We compared the assumptions used by management to historical results. We assessed the historical accuracy of management's estimates and performed sensitivity analyses over certain assumptions used by management to evaluate the changes in the fair value of each of the reporting units that would result from changes in those assumptions.

/s/ Ernst & Young LLP

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

Indianapolis, Indiana
February 28, 2022

STEEL DYNAMICS, INC.
CONSOLIDATED BALANCE SHEETS
(in thousands, except share data)

Assets	December 31, 2021	December 31, 2020
Current assets		
Cash and equivalents	$ 1,243,868	$ 1,368,618
Accounts receivable, net of allowances for credit losses of $6,161 and $8,209 as of December 31, 2021, and December 31, 2020, respectively	1,911,385	967,981
Accounts receivable-related parties	5,049	3,937
Inventories	3,531,130	1,843,548
Other current assets	209,591	74,363
Total current assets	6,901,023	4,258,447
Property, plant and equipment, net	4,751,430	4,105,569
Intangible assets, net	295,345	324,577
Goodwill	453,835	457,226
Other assets	129,601	119,743
Total assets	$ 12,531,234	$ 9,265,562
Liabilities and Equity		
Current liabilities		
Accounts payable	$ 1,266,833	$ 760,536
Accounts payable-related parties	13,722	8,919
Income taxes payable	13,746	2,386
Accrued payroll and benefits	539,812	201,778
Accrued interest	17,533	19,656
Accrued expenses	278,549	178,618
Current maturities of long-term debt	97,174	86,894
Total current liabilities	2,227,369	1,258,787
Long-term debt	3,008,702	3,015,782
Deferred income taxes	854,905	536,288
Other liabilities	120,087	106,479
Total liabilities	6,211,063	4,917,336
Commitments and contingencies		
Redeemable noncontrolling interests	211,414	158,614
Equity		
Common stock voting, $.0025 par value; 900,000,000 shares authorized; 267,224,622 and 266,618,566 shares issued; and 194,997,922 and 210,914,264 shares outstanding, as of December 31, 2021, and December 31, 2020, respectively	649	648
Treasury stock, at cost; 72,226,700 and 55,704,302 shares, as of December 31, 2021, and December 31, 2020 respectively	(2,674,267)	(1,623,747)
Additional paid-in capital	1,218,933	1,207,392
Retained earnings	7,761,417	4,758,969
Accumulated other comprehensive income (loss)	(2,091)	1,902
Total Steel Dynamics, Inc. equity	6,304,641	4,345,164
Noncontrolling interests	(195,884)	(155,552)
Total equity	6,108,757	4,189,612
Total liabilities and equity	$ 12,531,234	$ 9,265,562

See notes to consolidated financial statements.

STEEL DYNAMICS, INC.
CONSOLIDATED STATEMENTS OF INCOME
(in thousands, except per share data)

	Years Ended December 31,		
	2021	**2020**	**2019**
Net sales			
Unrelated parties	$ 18,376,743	$ 9,587,691	$ 10,451,132
Related parties	32,107	13,791	13,859
Total net sales	18,408,850	9,601,482	10,464,991
Costs of goods sold	13,046,426	8,166,754	8,934,007
Gross profit	5,362,424	1,434,728	1,530,984
Selling, general and administrative expenses	643,976	477,450	436,498
Profit sharing	388,111	61,728	78,029
Amortization of intangible assets	29,232	28,999	29,577
Asset impairment charges	-	19,409	-
Operating income	4,301,105	847,142	986,880
Interest expense, net of capitalized interest	57,209	94,877	127,104
Other (income) expense, net	34,826	46,787	(15,561)
Income before income taxes	4,209,070	705,478	875,337
Income tax expense	962,256	134,650	197,437
Net income	3,246,814	570,828	677,900
Net income attributable to noncontrolling interests	(32,748)	(20,006)	(6,797)
Net income attributable to Steel Dynamics, Inc.	$ 3,214,066	$ 550,822	$ 671,103
Basic earnings per share attributable to Steel Dynamics, Inc. stockholders	$ 15.67	$ 2.61	$ 3.06
Weighted average common shares outstanding	205,115	211,140	219,639
Diluted earnings per share attributable to Steel Dynamics, Inc. stockholders, including the effect of assumed conversions when dilutive	$ 15.56	$ 2.59	$ 3.04
Weighted average common shares and share equivalents outstanding	206,615	212,345	220,748
Dividends declared per share	$ 1.04	$ 1.00	$ 0.96

See notes to consolidated financial statements.

STEEL DYNAMICS, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(in thousands)

	Years Ended December 31,		
	2021	**2020**	**2019**
Net income	$ 3,246,814	$ 570,828	$ 677,900
Other comprehensive income (loss) - net unrealized gain (loss) on cash flow hedging derivatives, net of income tax benefit of $1,247, income tax expense of $594, and income tax benefit of $96 for 2021, 2020 and 2019, respectively	(3,993)	1,909	(308)
Comprehensive income	3,242,821	572,737	677,592
Comprehensive income attributable to noncontrolling interests	(32,748)	(20,006)	(6,797)
Comprehensive income attributable to Steel Dynamics, Inc.	$ 3,210,073	$ 552,731	$ 670,795

See notes to consolidated financial statements.

STEEL DYNAMICS, INC.
CONSOLIDATED STATEMENTS OF EQUITY
(in thousands)

	Shares		Common	Treasury	Additional Paid-In	Retained	Accumulated Other Comprehensive	Noncontrolling	Total	Redeemable Noncontrolling
	Common	Treasury	Stock	Stock	Capital	Earnings	Income (Loss)	Interests	Equity	Interests
Balances at January 1, 2019	225,272	40,550	$ 645	$ (1,184,243)	$ 1,160,048	$ 3,958,320	$ 301	$ (159,082)	$ 3,775,989	$ 111,240
Dividends declared	-	-	-	-	-	(209,513)	-	-	(209,513)	-
Noncontrolling investors, net	-	-	-	-	-	-	-	(2,308)	(2,308)	32,374
Share repurchases	(11,282)	11,282	-	(348,608)	-	-	-	-	(348,608)	-
Equity-based compensation	513	(262)	1	7,738	20,964	(614)	-	-	28,089	-
Net income	-	-	-	-	-	671,103	-	6,797	677,900	-
Other comprehensive loss, net of tax	-	-	-	-	-	-	(308)	-	(308)	-
Balances at December 31, 2019	214,503	51,570	646	(1,525,113)	1,181,012	4,419,296	(7)	(154,593)	3,921,241	143,614
Dividends declared	-	-	-	-	-	(210,496)	-	-	(210,496)	-
Noncontrolling investors, net	-	-	-	-	-	-	-	(20,965)	(20,965)	15,000
Share repurchases	(4,402)	4,402	-	(106,529)	-	-	-	-	(106,529)	-
Equity-based compensation	813	(268)	2	7,895	26,380	(653)	-	-	33,624	-
Net income	-	-	-	-	-	550,822	-	20,006	570,828	-
Other comprehensive income, net of tax	-	-	-	-	-	-	1,909	-	1,909	-
Balances at December 31, 2020	210,914	55,704	648	(1,623,747)	1,207,392	4,758,969	1,902	(155,552)	4,189,612	158,614
Dividends declared	-	-	-	-	-	(210,939)	-	-	(210,939)	-
Noncontrolling investors, net	-	-	-	-	-	(150)	-	(73,080)	(73,230)	52,800
Share repurchases	(16,867)	16,867	-	(1,060,632)	-	-	-	-	(1,060,632)	-
Equity-based compensation	951	(344)	1	10,112	11,541	(529)	-	-	21,125	-
Net income	-	-	-	-	-	3,214,066	-	32,748	3,246,814	-
Other comprehensive loss, net of tax	-	-	-	-	-	-	(3,993)	-	(3,993)	-
Balances at December 31, 2021	194,998	72,227	$ 649	$ (2,674,267)	$ 1,218,933	$ 7,761,417	$ (2,091)	$ (195,884)	$ 6,108,757	$ 211,414

See notes to consolidated financial statements.

STEEL DYNAMICS, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Years Ended December 31,		
	2021	**2020**	**2019**
Operating activities:			
Net income	$ 3,246,814	$ 570,828	$ 677,900
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	347,653	325,789	321,082
Asset impairment charges	-	19,409	-
Equity-based compensation	57,715	55,598	47,631
Deferred income taxes	322,007	47,808	51,721
Other adjustments	(3,240)	30,974	1,413
Changes in certain assets and liabilities:			
Accounts receivable	(944,516)	(111,920)	237,805
Inventories	(1,685,834)	(150,596)	217,866
Other assets	(2,491)	(1,547)	13,735
Accounts payable	557,735	182,509	(86,445)
Income taxes receivable/payable	(105,921)	32,551	(12,095)
Accrued expenses	414,214	(14,371)	(74,323)
Net cash provided by operating activities	2,204,136	987,032	1,396,290
Investing activities:			
Purchases of property, plant and equipment	(1,006,239)	(1,198,055)	(451,945)
Purchases of short-term investments	-	(149,359)	(396,159)
Proceeds from maturities of short-term investments	-	411,533	362,768
Acquisition of business, net of cash acquired	-	(60,012)	(97,106)
Other investing activities	6,819	2,634	5,756
Net cash used in investing activities	(999,420)	(993,259)	(576,686)
Financing activities:			
Issuance of current and long-term debt	1,516,556	2,523,356	1,573,962
Repayment of current and long-term debt	(1,522,002)	(2,177,527)	(1,264,152)
Dividends paid	(212,968)	(209,248)	(200,271)
Purchases of treasury stock	(1,060,632)	(106,529)	(348,608)
Other financing activities	(50,423)	(37,100)	(27,561)
Net cash used in financing activities	(1,329,469)	(7,048)	(266,630)
Increase (decrease) in cash and equivalents, and restricted cash	(124,753)	(13,275)	552,974
Cash and equivalents, and restricted cash at beginning of period	1,374,122	1,387,397	834,423
Cash and equivalents, and restricted cash at end of period	$ 1,249,369	$ 1,374,122	$ 1,387,397
Supplemental disclosure information:			
Cash paid for interest	$ 103,374	$ 111,591	$ 134,550
Cash paid for income taxes, net	$ 737,157	$ 50,417	$ 155,525

See 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 one of the largest and most diversified domestic steel producers and metals recycler. The company has three reporting segments: steel operations, metals recycling operations, and steel fabrication operations. Approximately 6% of the company's workforce in six locations is represented by collective bargaining agreements, and agreements affecting 5% of the company's employees at three locations expire during 2022.

Steel Operations Segment

Steel operations include the company's electric arc furnace (EAF) steel mills, including Butler Flat Roll Division, Columbus Flat Roll Division, Structural and Rail Division, Engineered Bar Products Division, Roanoke Bar Division, Steel of West Virginia, and the Southwest-Sinton Flat Roll Division (Sinton); and steel coating and processing operations at The Techs galvanizing lines, Heartland Flat Roll Division, United Steel Supply (USS) – acquired 75% equity interest March 1, 2019, and Vulcan Threaded Products Inc. (Vulcan). Certain Sinton steel coating lines commenced operations in late 2021, with the rest of the operations commencing in early 2022. Steel operations accounted for 72%, 74%, and 76% of the company's consolidated net sales during 2021, 2020, and 2019, respectively.

Metals Recycling Operations Segment

Metals recycling operations include the company's OmniSource ferrous and nonferrous processing, transportation, marketing, brokerage, and scrap management services primarily throughout the United States and in Central and Northern Mexico. Metals recycling operations accounted for 12% of the company's consolidated net sales during 2021, and 11% in 2020 and 2019.

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 10% of the company's consolidated net sales during 2021 and 9% in 2020 and 2019.

Other

Other operations consist of subsidiary operations that are below the quantitative thresholds required for reportable segments and primarily consist of joint ventures, and the company's idled Minnesota ironmaking operations. Redeemable noncontrolling interests related to Mesabi Nugget (owned 85% by SDI) are $111.2 million at December 31, 2021, and 2020. Also included in "Other" are certain unallocated corporate accounts, such as the company's senior unsecured credit facility, senior notes, certain other investments and the company's profit sharing component.

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 and redeemable noncontrolling interests represent the noncontrolling owners' proportionate share in the equity, income, or losses of the company's majority-owned or controlled consolidated subsidiaries.

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

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.

Revenue from Contracts with Customers

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 judgments 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 activities 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 future revenue from yet to be fabricated customer contracts, has not been disclosed under the practical expedient in Accounting Standards Codification (ASC) 606, Revenue from Contracts with Customers (ASC 606), paragraph ASC 606-10-50-14 related to customer contracts with expected duration of one year or less. The company does not exercise significant judgments 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 activities 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-U.S. sales may extend longer.

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

Credit Losses

The company is exposed to credit risk in the event of nonpayment of accounts receivable by customers. The company mitigates its exposure to credit risk, which it generally extends 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. The allowance for credit losses for accounts receivable is based on the company's reasonable estimate of known credit risks and historical experience, adjusted for current and anticipated economic and other pertinent factors affecting the company's customers, that may differ from historical experience. Customer accounts receivable are written off when all collection efforts have been exhausted and the amounts are deemed uncollectible.

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

At December 31, 2021 and 2020, the company reported $1,916.4 million and $971.9 million, respectively, of accounts receivable, net of allowances for credit losses of $6.2 million and $8.2 million respectively. Changes in the allowance were not material for the years ended December 31, 2021, or 2020.

Cash and Equivalents, and Restricted Cash

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. The balance of cash, cash equivalents and restricted cash in the consolidated statements of cash flows includes restricted cash of $5.5 million, $5.5 million, $5.9 million, and $6.2 million at December 31, 2021, 2020, 2019, and 2018, respectively, which are recorded in Other Assets (noncurrent) in the company's consolidated balance sheets.

Inventories

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

	2021	2020
Raw materials	$ 1,870,300	$ 790,324
Supplies	552,616	500,497
Work in progress	402,207	162,843
Finished goods	706,007	389,884
Total inventories	$ 3,531,130	$ 1,843,548

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 steel operations segment assets, based on units produced, subject to minimum and maximum levels. Depreciation expense was $311.4 million, $290.5 million, and $285.6 million for the years ended December 31, 2021, 2020, and 2019, respectively.

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

	2021	2020
Land and improvements	$ 350,898	$ 340,495
Buildings and improvements	873,131	860,641
Plant, machinery and equipment	5,193,405	4,827,791
Construction in progress	1,839,110	1,302,689
	8,256,544	7,331,616
Less accumulated depreciation	3,505,114	3,226,047
Property, plant and equipment, net	$ 4,751,430	$ 4,105,569

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

Intangible Assets

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

	2021	2020	Useful Life	Weighted Average Amortization Period
Customer, vendor and scrap generator relationships	$ 526,886	$ 526,886	5 to 25 years	21 years
Trade names	147,950	147,950	15 to 25 years	19 years
Other	1,350	1,350	5 years	5 years
	676,186	676,186		21 years
Less accumulated amortization	380,841	351,609		
	$ 295,345	$ 324,577		

The company utilizes an accelerated amortization methodology for customer, vendor 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 $29.2 million, $29.0 million, and $29.6 million for the years ended December 31, 2021, 2020, and 2019, respectively. Estimated amortization expense related to amortizable intangibles for the years ending December 31 is as follows (in thousands):

2022	$ 27,840
2023	27,439
2024	26,701
2025	24,783
2026	23,820
Thereafter	164,762
Total	$ 295,345

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, the company's strategy and capital planning, and the economic environment 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, 2021, and 2020, the company reported $7.1 and $7.2 million, respectively, of assets held for sale within other current assets in the 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, 2021 and 2020, the asset carrying amounts approximated their fair value less cost to sell.

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

Events occurred during the fourth quarter of 2020, that represented impairment indicators related to the company's noncore oil and gas joint ventures. Therefore, the company undertook a fourth quarter 2020 assessment of the recoverability of the carrying amounts of these joint ventures' property, plant and equipment. Based on the joint ventures' outlook at the time of this 2020 assessment, the company concluded that the carrying amounts of its property, plant and equipment were fully impaired. This assessment resulted in a total non-cash asset impairment charge of $19.4 million, which include amounts attributable to noncontrolling interests of $2.4 million, that in total served to reduce net income attributable to Steel Dynamics, Inc. by $12.0 million for the year ended December 31, 2020.

Goodwill

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

	2021	2020
Steel Operations Segment	$ 272,133	$ 272,133
Metals Recycling Operations Segment	179,777	183,168
Steel Fabrication Operations Segment	1,925	1,925
	$ 453,835	$ 457,226

Metals Recycling Operations Segment goodwill decreased $3.4 million in 2021 in recognition of the 2021 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, 2021 and 2020.

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 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 for some years 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, Fair Value Measurement. If the fair value exceeds the carrying value of the reporting unit, there is no impairment. If the carrying amount exceeds the fair value, the company recognizes an impairment loss in the amount by which 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. No impairment was identified during the company's 2021, 2020 or 2019 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, stock appreciation awards, 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 $80.2 million, $50.7 million, and $43.3 million for the years ended December 31, 2021, 2020, and 2019, respectively.

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

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.

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, 2021, 2020, and 2019.

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):

	2021			2020		
	Net Income (Numerator)	Shares (Denominator)	Per Share Amount	Net Income (Numerator)	Shares (Denominator)	Per Share Amount
Basic earnings per share	$ 3,214,066	205,115	$ 15.67	$ 550,822	211,140	$ 2.61
Dilutive common share equivalents	-	1,500		-	1,205	
Diluted earnings per share	$ 3,214,066	206,615	$ 15.56	$ 550,822	212,345	$ 2.59

	2019		
	Net Income (Numerator)	Shares (Denominator)	Per Share Amount
Basic earnings per share	$ 671,103	219,639	$ 3.06
Dilutive common share equivalents	-	1,109	
Diluted earnings per share	$ 671,103	220,748	$ 3.04

Concentration of Credit Risk

Financial instruments that potentially subject the company to significant concentrations of credit risk principally consist of temporary cash investments and accounts receivable. When advantageous, the company places its temporary cash 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 for fair

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

value hedges. 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.

Note 2. Acquisitions and Investments

New Process Steel, L.P. – 45% Minority Equity Interest

On January 31, 2022, the company purchased a 45% minority equity interest in New Process Steel, L.P. (NPS), a metals solutions and distribution supply-chain management company headquartered in Houston, Texas, with a focus toward growing its value-added manufacturing applications. As the company does not have power to control NPS, the company will account for the investment using the equity method of accounting.

Zimmer

The company acquired 100% of Zimmer in August 2020 for cash consideration of $60.0 million. The acquisition of Zimmer is part of the company's raw material procurement strategy to support its new Southwest-Sinton Flat Roll Division. Headquartered in Monterrey, Mexico, Zimmer operates several ferrous and nonferrous scrap facilities strategically positioned near high-volume industrial scrap sources, and several third-party scrap processing locations, located throughout Central and Northern Mexico. Zimmer's post-acquisition operating results are reflected in the company's financial statements in the metals recycling operations segment.

United Steel Supply

The company purchased a 75% equity interest in United Steel Supply, LLC (USS) on March 1, 2019, for cash consideration of $97.1 million. Headquartered in Austin, Texas, USS is a leading distributor of painted Galvalume® flat roll steel used for roofing and siding applications, with distribution centers strategically located in Mississippi, Indiana, and Oregon. USS provides the steel operations segment a new, complementary distribution channel and connects it to a rapidly growing industry segment with customers that do not traditionally purchase steel directly from a steel producer. USS's post-acquisition operating results are reflected in the company's financial statements in the steel operations segment.

The company has an option to purchase, and the sellers have the option to require the company to purchase, after the third anniversary of the transaction (March 1, 2022), 12.5% of the equity interest of USS, and the company has an option to purchase and the sellers have the option to require the company to purchase, after the fourth anniversary of the transaction (March 1, 2023), the remaining 12.5% equity interest of USS. The USS noncontrolling interest is therefore reflected in redeemable noncontrolling interest in the consolidated balance sheets.

Note 3. Long-Term Debt

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

	2021	2020
2.800% senior notes due 2024	$ 400,000	$ 400,000
2.400% senior notes due 2025	400,000	400,000
5.000% senior notes due 2026	400,000	400,000
1.650% senior notes due 2027	350,000	350,000
3.450% senior notes due 2030	600,000	600,000
3.250% senior notes due 2031	500,000	500,000
3.250% senior notes due 2050	400,000	400,000
Other obligations	105,422	108,658
Total debt	3,155,422	3,158,658
Less debt issuance costs and original issue discounts	49,546	55,982
Total amounts outstanding	3,105,876	3,102,676
Less current maturities	97,174	86,894
Long-term debt	$ 3,008,702	$ 3,015,782

Senior Credit Facility due 2024

The company has an unsecured credit agreement which has a senior unsecured revolving credit facility (Facility) which provides a $1.2 billion unsecured Revolver, which matures December 3, 2024. Subject to certain conditions, the company has the opportunity to increase the Facility size by $500.0 million. The unsecured 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 to incur indebtedness and permit liens on certain assets. The company's ability to borrow funds within the terms of the unsecured Revolver is dependent upon its continued compliance with the financial and other covenants. At December 31, 2021, 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 either 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), or the company's credit ratings. The minimum pricing is LIBOR plus 1.125% or Prime plus 0.125%, and the maximum pricing is LIBOR plus 1.75% or Prime plus 0.75%. In addition, the company is subject to an unused commitment fee of between 0.15% and 0.275% (based on either our leverage of net debt to LTM consolidated adjusted EBITDA, or our credit ratings) which is applied to the unused portion of the Revolver.

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 LTM consolidated Adjusted EBITDA by its LTM gross interest expense, less amortization of financing fees. In addition, a debt to capitalization ratio of not more than 0.60:1.00 must be maintained. At December 31, 2021, the company's interest coverage ratio and debt to capitalization ratio were 45.04:1.00 and 0.33:1.00, respectively. The company was, therefore, in compliance with these covenants at December 31, 2021, and anticipates remaining in compliance during the next twelve months.

Senior Unsecured Notes

The company has seven 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 Notes on or after the dates and at redemption prices (expressed as a percentage of principal amount) listed below.

Note 3. Long-Term Debt (Continued)

Our $400.0 million of 2.800% senior notes due 2024 mature on December 15, 2024, with interest payable semi-annually. Early redemption is permitted as follows: any time prior to November 15, 2024, at a make-whole price of the remaining payments to be made discounted at the applicable U.S. Treasury rate plus 0.20%; and as of November 15, 2024, at 100.000%.

Our $400.0 million of 2.400% senior notes due 2025 mature on June 15, 2025, with interest payable semi-annually. Early redemption is permitted as follows: any time prior to May 15, 2025, at a make-whole price of the remaining payments to be made discounted at the applicable U.S. Treasury rate plus 0.35%; and as of May 15, 2025, at 100.000%.

Our $400.0 million of 5.000% senior notes due 2026 mature on December 15, 2026, with interest payable semi-annually. Early redemption is permitted as follows: as of December 15, 2021, at 102.500%; as of December 15, 2022, at 101.667%; as of December 15, 2023, at 100.833%; and as of December 15, 2024, at 100.000%.

Our $350.0 million of 1.650% senior notes due 2027 mature on October 15, 2027, with interest payable semi-annually. Early redemption is permitted as follows: any time prior to August 15, 2027, at a make-whole price of the remaining payments to be made discounted at the applicable U.S. Treasury rate plus 0.20%; and as of August 15, 2027, at 100.000%.

Our $600.0 million of 3.450% senior notes due 2030 mature on April 15, 2030, with interest payable semi-annually. Early redemption is permitted as follows: any time prior to January 15, 2030, at a make-whole price of the remaining payments to be made discounted at the applicable U.S. Treasury rate plus 0.25%; and as of January 15, 2030, at 100.000%.

Our $500.0 million of 3.250% senior notes due 2031 mature on January 15, 2031, with interest payable semi-annually. Early redemption is permitted as follows: any time prior to October 15, 2030, at a make-whole price of the remaining payments to be made discounted at the applicable U.S. Treasury rate plus 0.40%; and as of October 15, 2030, at 100.000%.

Our $400.0 million of 3.250% senior notes due 2050 mature on October 15, 2050, with interest payable semi-annually. Early redemption is permitted as follows: any time prior to April 15, 2050, at a make-whole price of the remaining payments to be made discounted at the applicable U.S. Treasury rate plus 0.30%; and as of April 15, 2050, at 100.000%.

Other Obligations

Secured Loans. Two of the company's controlled subsidiaries have entered into financing agreements for certain equipment which bear interest at an average rate of 4.7%, with monthly principal and interest payments required through 2028. The outstanding principal balance of these agreements was $10.4 million and $9.6 million at December 31, 2021, and 2020, respectively.

One of the company's controlled subsidiaries has a secured credit agreement, which matures in August 2024, and provides a revolving variable rate credit facility of up to $100.0 million, subject to a borrowing base determined from eligible accounts receivable and inventory, and is further secured with $30.0 million of letter of credit support from Steel Dynamics, Inc. Interest, which was 1.6% at December 31, 2021, is payable monthly. Amounts due under the credit facility were $94.4 million and $82.3 million at December 31, 2021, and 2020, respectively.

Note 3. Long-Term Debt (Continued)

Another of the company's controlled subsidiaries has a secured credit agreement, which matures in March 2023, and provides a revolving variable rate credit facility of up to $25.0 million, subject to a borrowing base determined from eligible accounts receivable and inventory. Interest, which was 3.0% at December 31, 2021, is payable monthly. There were no amounts due under the credit facility at December 31, 2021 or 2020.

Mesabi Nugget had loans from various Minnesota state agencies related to the construction and ultimate operation of Mesabi Nugget that were paid off in full during 2021. Amounts due under these loans were zero and $15.2 million at December 31, 2021, and 2020, respectively.

Outstanding Debt Maturities

Maturities of outstanding debt as of December 31, 2021, are as follows (in thousands):

2022	$	97,174
2023		2,081
2024		401,621
2025		401,562
2026		401,481
Thereafter		1,851,503
	$	3,155,422

The company capitalizes interest on all qualifying construction in progress assets. For the years ended December 31, 2021, 2020, and 2019, total interest costs incurred were $107.7 million, $118.8 million, and $132.6 million, respectively, of which $50.5 million, $23.9 million and $5.5 million, respectively, were capitalized.

Financing Activity

In October 2020, the company issued $350.0 million of 1.650% notes due 2027 and $400.0 million of 3.250% notes due 2050. The net proceeds from these notes were used to fund the October 2020 call and redemption of the $350.0 million outstanding principal amount of the company's 4.125% senior notes due 2025 at a redemption price of 102.063%, plus accrued and unpaid interest to, but not including, the date of redemption, and for general corporate purposes. The company recorded expenses related to premiums and write off of unamortized debt issuance costs of approximately $10.3 million, which are reflected in other expenses in the consolidated statement of income for the year ended December 31, 2020.

In June 2020, the company issued $400.0 million of 2.400% notes due 2025 and $500.0 million of 3.250% notes due 2031. The net proceeds from these notes were used to fund the June 2020 call and redemption of the $400.0 million outstanding principal amount of the company's 5 1/4% senior notes due 2023 at a redemption price of 100.875%, and the $500.0 million outstanding principal amount of the company's 5.500% senior notes due 2024 at a redemption price of 102.750%, plus accrued and unpaid interest to, but not including, the date of redemption. The company recorded expenses related to premiums, write off of unamortized debt issuance costs, and other expenses of approximately $22.8 million, which are reflected in other expenses in the consolidated statement of income for the year ended December 31, 2020.

In December 2019, the company issued $400.0 million of 2.800% senior notes due 2024 and $600.0 million of 3.450% senior notes due 2030, the proceeds of which were used to fund the December 2019 call and redemption of the $700.0 million outstanding principal amount of the company's 5.125% senior notes due 2021 at a redemption price of 100.000%, plus accrued and unpaid interest to, but not including, the date of repayment, and for general corporate purposes. The company recorded expenses related to write off of unamortized debt issuance costs and other expenses of $3.7 million, which are reflected in other expenses in the consolidated statement of income for the year ended December 31, 2019.

Note 4. Income Taxes

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

	2021	2020	2019
Current income tax expense	$ 643,639	$ 88,914	$ 149,106
Deferred income tax expense	318,617	45,736	48,331
Total income tax expense	$ 962,256	$ 134,650	$ 197,437

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

	2021	2020	2019
Statutory federal tax rate	21.0 %	21.0 %	21.0 %
State income taxes, net of federal benefit	2.5	2.6	2.1
Release of valuation allowance	-	(2.9)	-
Federal research & development credits	(0.7)	(2.1)	(0.6)
Other permanent differences	0.1	0.5	0.1
Effective tax rate	22.9 %	19.1 %	22.6 %

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

	2021	2020
Deferred tax assets		
Accrued expenses and allowances	$ 24,324	$ 22,912
Inventories	9,088	5,670
Net operating loss carryforwards	20,333	25,089
Other	8,776	7,077
	62,521	60,748
Less: valuation allowance	(805)	(805)
Total net deferred tax assets	61,716	59,943
Deferred tax liabilities		
Property, plant and equipment	(846,942)	(538,746)
Intangible assets	(62,339)	(51,835)
Other	(7,340)	(5,650)
Total deferred tax liabilities	(916,621)	(596,231)
Net deferred tax liability	$ (854,905)	$ (536,288)

Note 4. Income Taxes (Continued)

Certain wholly-owned and controlled subsidiaries of the company file separate federal and state income tax returns. One of the controlled subsidiaries has net operating loss carryforwards in the amount of $71.8 million at December 31, 2021, which expire in the years 2034 through 2039, along with state net operating loss carryforwards which expire in years 2033 through 2039. During the fourth quarter of 2020, the company evaluated the realizability of the net deferred tax assets for this controlled subsidiary. In completing this evaluation, the company considered all available positive and negative evidence in order to determine whether, based on the weight of the evidence, a valuation allowance for its deferred tax assets was necessary. Such evidence included current operating results, historical results, future reversals of existing taxable temporary differences and expectations for future taxable income (exclusive of the reversal of temporary differences and carryforwards), as well as the implementation of feasible and prudent tax planning strategies. Based on the positive evidence, the company concluded that it was more likely than not that the net deferred tax assets would be realized. As a result, $21.2 million of the valuation allowance was reversed in the year ended December 31, 2020. The company continues to maintain a valuation allowance of $805,000 as of December 31, 2021, and 2020, with respect to certain state tax credits of the controlled subsidiary.

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

	2021	2020	2019
Balance at January 1	$ 12,830	$ 10,162	$ 10,131
Increases related to current year tax positions	8,250	4,350	750
Increases related to prior year tax positions	2,095	-	2,198
Decreases related to prior year tax positions	(2,709)	(1,682)	(1,363)
Settlements with taxing authorities	-	-	(1,554)
Balance at December 31	$ 20,466	$ 12,830	$ 10,162

Included in the balance of unrecognized tax benefits at December 31, 2021 and 2020, are potential benefits of $16.8 million and $9.0 million, respectively, 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 years ended December 31, 2021, 2020, and 2019, the company recognized benefits from the decrease of interest expense and penalties of $205,000, $450,000, and $400,000, respectively, net of tax. In addition to the unrecognized tax benefits in the table above, the company had $561,000 and $828,000 accrued for the payment of interest and penalties at December 31, 2021 and 2020, respectively.

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 $3.3 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 tax years 2018 through 2020 remain open to examination by the Internal Revenue Service and various state and local jurisdictions.

Note 5. Shareholders' Equity

Cash Dividends

The company declared cash dividends of $210.9 million, or $1.04 per common share, during 2021; $210.5 million, or $1.00 per common share, during 2020; and $209.5 million, or $0.96 per common share, during 2019. The company paid cash dividends of $213.0 million, $209.2 million and $200.3 million during 2021, 2020, and 2019, respectively.

Note 5. Shareholders' Equity (Continued)

Treasury Stock

In February 2020, the board of directors authorized a share repurchase program of up to $500.0 million of the company's common stock. This program was exhausted in July 2021. In July 2021, the board of directors authorized an additional share repurchase program of up to $1.0 billion of the company's common stock. Under the above share repurchase programs, and similar prior programs, purchases take place as and when the company determines 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 share repurchase programs do not have an expiration date. The company repurchased 16.9 million shares for $1.1 billion during 2021, 4.4 million shares for $106.5 million during 2020, and 11.3 million shares for $348.6 million during 2019 under the share repurchase programs. At December 31, 2021, the company had remaining authorization to repurchase $383.4 million of additional shares under the 2021 share repurchase program.

Note 6. Equity-Based Incentive Plans

Amended and Restated 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 (of which there are none), unrestricted stock awards (of which there are none), stock appreciation rights (SARs), and performance awards, such as long-term incentive compensation program (LTIP). The company's shareholders 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. In May 2019, the 2015 Plan was amended and restated with an additional 8.0 million shares of common stock reserved for issuance upon exercise of equity grants. 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 do not count against the share reserve. At December 31, 2021, there were 4.2 million shares still available for issuance.

Substantially all of the company's full-time, non-union, U.S. team members 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, 2021, presented below, the company awarded 25,000, 52,000 and 54,000 DSUs in 2021, 2020 and 2019, respectively; and 171,200, 325,500 and 300,000 SARs in 2021, 2020 and 2019, respectively. The 447,100 SAR awards outstanding at December 31, 2021, 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 $35.52.

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, 2021, 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, 2019	1,348,066	$ 36.32	$ 40,496	$ 31,996
Granted	1,038,812	29.87		
Vested	(769,291)	35.32		
Forfeited	(59,593)	36.03		
As of December 31, 2019	1,557,994	$ 32.53	$ 53,034	$ 33,581
Granted	1,017,518	33.54		
Vested	(811,317)	36.09		
Forfeited	(65,616)	32.20		
As of December 31, 2020	1,698,579	$ 31.44	$ 62,627	$ 35,821
Granted	627,973	59.38		
Vested	(895,706)	32.30		
Forfeited	(82,588)	32.47		
As of December 31, 2021 (nonvested)	1,348,258	$ 43.82	$ 83,686	$ 39,657

The weighted average remaining life before vesting of the outstanding RSUs as of December 31, 2021, is 1.59 years. The fair value of RSUs vesting during 2021, 2020, and 2019 was $56.5 million, $29.9 million, and $26.2 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 2021, 2020, and 2019 were approximately 290,000, 266,000, and 250,000 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 leadership 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 2020, 2019, and 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. Beginning with 2018, award shares vest immediately once earned on the basis of performance. For awards prior to 2018, 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.

Note 6. Equity-Based Incentive Plans (Continued)

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:

	Maximum Shares That Could Be Issued	Award Earned	Award Issued/Issuable	
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	164,047	54,683	March 2020
			54,682	March 2021
			54,682	March 2022
Two-year performance period transition award	16,779	15,101	5,034	March 2019
			5,034	March 2020
			5,033	March 2021
2018 LTIP Award:				
Three-year performance period award	198,397	188,481	188,481	March 2021
2019 LTIP Award:				
Three-year performance period award	422,008	379,811	379,811	March 2022
Two-year performance period transition award	15,600	14,040	14,040	March 2021
2020 LTIP Award:				
Three-year performance period award	405,922	*	*	
Two-year performance period transition award	9,764	8,300	8,300	March 2022
One-year performance period transition award	9,764	7,812	7,812	March 2021
2021 LTIP Award:				
Three-year performance period award	400,468	*	*	

* Not yet earned as performance period not complete.

2018 Executive Incentive Compensation Plan (2018 Executive Plan)

The company's shareholders approved the 2018 Executive Plan in May 2018, and 2.0 million shares of company stock were reserved for issuance through February 28, 2028. Pursuant to the company's 2018 Executive Plan, certain senior leadership 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, 2021, 2020, and 2019, 1.4 million, 1.5 million, and 1.7 million shares, respectively, under the 2018 Executive Plan remained available for issuance. Pursuant to the 2018 Executive Plan, 157,000, 148,000, and 149,000 shares were awarded with a market value of $8.7 million, $5.1 million, and $4.5 million for the 2021, 2020, and 2019 award years, respectively.

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.

If the company is "long" on commodity 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, 2021:

Commodity Futures	Long/Short	Metric Tons
Aluminum	Long	4,225
Aluminum	Short	9,850
Copper	Long	16,250
Copper	Short	30,255

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 income as of and for the years ended December 31 (in thousands):

		Asset Derivatives		Liability Derivatives	
		Fair Value		Fair Value	
	Balance sheet location	December 31, 2021	December 31, 2020	December 31, 2021	December 31, 2020
Derivative instruments designated as hedges					
Commodity futures	Other current assets	$ 1,278	$ 5,092	$ 7,430	$ 4,635
Derivative instruments not designated as hedges					
Commodity futures	Other current assets	4,319	1,705	6,171	2,807
Total derivative instruments		$ 5,597	$ 6,797	$ 13,601	$ 7,442

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 $24.9 million and $13.2 million at December 31, 2021, and 2020, 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, 2021					
Derivatives in fair value hedging relationships					
Commodity futures	Costs of goods sold	$ (1,369)	Firm commitments	Costs of goods sold	$ 3,354
			Inventory	Costs of goods sold	1,054
Derivatives not designated as hedging instruments					$ 4,408
Commodity futures	Costs of goods sold	$ (33,517)			
For the Year Ended December 31, 2020					
Derivatives in fair value hedging relationships					
Commodity futures	Costs of goods sold	$ (2,004)	Firm commitments	Costs of goods sold	$ (79)
			Inventory	Costs of goods sold	(482)
Derivatives not designated as hedging instruments					$ (561)
Commodity futures	Costs of goods sold	$ (17,368)			
For the Year Ended December 31, 2019					
Derivatives in fair value hedging relationships					
Commodity futures	Costs of goods sold	$ (801)	Firm commitments	Costs of goods sold	$ (1,613)
			Inventory	Costs of goods sold	832
Derivatives not designated as hedging instruments					$ (781)
Commodity futures	Costs of goods sold	$ 704			

Derivatives accounted for as fair value hedges had ineffectiveness resulting in losses of $101,000, gains of $68,000, and losses of $28,000 for the years ended December 31, 2021, 2020, and 2019, respectively. Gains excluded from hedge effectiveness testing of $3.1 million decreased cost of goods sold for the year ended December 31, 2021. Losses excluded from hedge effectiveness testing of $2.6 million and $1.6 million increased cost of goods sold for the year ended December 31, 2020, and 2019, respectively.

Note 7. Derivative Financial Instruments (Continued)

Derivatives accounted for as cash flow hedges resulted in net gains of $40.9 million, $2.8 million and $137,000 recognized in other comprehensive income for the years ended December 31, 2021, 2020, and 2019, respectively. Net gains of $46.1 million, $265,000, and $541,000 were reclassified from accumulated other comprehensive income into income for the years ended December 31, 2021, 2020, and 2019, respectively. At December 31, 2021, the company expects to reclassify $2.7 million of net losses on derivative instruments from accumulated other comprehensive income to expense during the next 12 months due to the settlement of futures contracts. The maximum term over which the company is hedging its exposure to the variability of future cash flows for forecasted transactions is less than 12 months.

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, 2021				
Commodity futures – financial assets	$ 5,597	$ -	$ 5,597	$ -
Commodity futures – financial liabilities	13,601	-	13,601	-
December 31, 2020				
Commodity futures – financial assets	$ 6,797	$ -	$ 6,797	$ -
Commodity futures – financial liabilities	7,442	-	7,442	-

The carrying amounts of financial instruments including cash and equivalents, and restricted cash approximate fair value (Level 1). The fair values of 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 $3.3 billion and $3.4 billion at December 31, 2021 and 2020 (with a corresponding carrying amount in the consolidated balance sheet of $3.1 billion at December 31, 2021 and 2020).

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 commodities such as electricity, water, natural gas and its transportation services, fuel, air products, zinc, 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 generally up to 5 years for physical commodity requirements and commodity transportation requirements, with some extending beyond, and for up to 16 years for air products and 30 years for water products. The company utilized such "take or pay" requirements during the past three years under these contracts, except for certain air products at our idled Minnesota ironmaking operations. 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 our idled Minnesota ironmaking operations.

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):

2022	$ 344,881
2023	83,139
2024	52,962
2025	17,423
2026	16,452
Thereafter	125,913
	$ 640,770

At December 31, 2021, the company has outstanding commitments of $292.8 million related to ongoing construction of property, plant, and equipment related primarily to steel operations expansion projects in 2022. The company's commitments for operating leases are discussed in Note 12. *Leases.*

The company is involved in various 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, and steel with other smaller affiliated companies. These transactions for the years ended December 31, are as follows (in thousands):

	2021	2020	2019
Sales	$ 32,107	$ 13,791	$ 13,859
Accounts receivable	5,049	3,937	2,958
Purchases	163,453	132,560	203,279
Accounts payable	13,722	8,919	3,657

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 $382.8 million, $74.5 million, and $98.8 million for the years ended December 31, 2021, 2020, and 2019, 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 $359.8 million, $58.3 million, and $73.6 million for the years ended December 31, 2021, 2020, and 2019, respectively; of which up to $287.8 million (subject to total Plan contribution limitations), $46.7 million, and $58.9 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 some real estate. The company determines if an arrangement contains a lease at inception, which generally occurs when the arrangement identifies a specific asset that the company has the right to direct the use of and obtain substantially all of the economic benefit from use of the identified asset. Certain of our lease agreements contain rent escalation clauses (including fixed and index-based escalations), and options to extend or terminate the lease. For purposes of calculating operating lease obligations, the company's lease terms include options to extend the lease when it is reasonably certain that the company will exercise such option. The company uses its incremental borrowing rate at lease commencement to determine the present value of lease payments. The incremental borrowing rate is the rate of interest the company could borrow on a collateralized basis over a similar term with similar payments. Operating lease expense is recognized on a straight-line basis over the lease term.

Operating lease right-of-use assets and lease obligations included in the consolidated balance sheets at December 31, are as follows (in thousands):

	2021	2020
Right-of-use assets under operating leases:		
Other assets - noncurrent	$ 100,124	$ 90,280
Lease obligations under operating leases:		
Accrued liabilities	$ 17,822	$ 17,702
Other liabilities - noncurrent	82,252	72,614
	$ 100,074	$ 90,316

The weighted average remaining lease term for our operating leases is nine years, and the weighted-average discount rate is 3.60% and 3.84% as of December 31, 2021 and 2020, respectively. Future operating lease liabilities as of December 31, 2021, for the next five years and thereafter are as follows (in thousands):

2022	$ 20,769
2023	18,158
2024	15,341
2025	12,444
2026	8,261
Thereafter	42,719
Total undiscounted cash flows	117,692
Less imputed interest	(17,618)
Lease obligations under operating leases	$ 100,074

Note 12. Leases (Continued)

Operating lease expense included in the consolidated statements of income was $22.5 million, $21.3 million, and $20.1 million for the years ended December 31, 2021, 2020, and 2019, respectively. Cash paid related to operating lease obligations was $19.0 million, $18.6 million, and $17.5 million for the years ended December 31, 2021, 2020, and 2019, respectively. Variable lease costs were not material for the years ended December 31, 2021, 2020, or 2019. Short-term lease expense included in the consolidated statements of income was $28.0 million, $19.1 million, and $20.0 for the years ended December 31, 2021, 2020, and 2019, respectively. Right-of-use assets obtained in exchange for new operating lease liabilities for the years ended December 31, 2021, 2020, and 2019 was $28.6 million, $33.3 million including $19.7 million related to Zimmer, and $16.1 million, respectively.

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. *Description of the Business and Summary of Significant Accounting Policies* 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 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 smaller joint ventures, and the idle Minnesota ironmaking operations. Also included in "Other" are certain unallocated corporate accounts, such as the company's senior unsecured credit facility, senior notes, certain other investments and certain profit sharing expenses.

The company's segment results, including disaggregated revenue by segment to external, external non-United States, and other segment customers, are as follows (in thousands):

For the year ended December 31, 2021	Steel Operations	Metals Recycling Operations	Steel Fabrication Operations	Other	Eliminations	Consolidated
Net sales - disaggregated revenue						
External	$ 12,618,917	$ 1,658,843	$ 1,761,078	$ 1,252,095	$ -	$ 17,290,933
External Non-United States	580,225	524,629	569	12,494	-	1,117,917
Other segments	823,991	2,406,649	3,063	2,382	(3,236,085)	-
	14,023,133	4,590,121	1,764,710	1,266,971	(3,236,085)	18,408,850
Operating income (loss)	4,360,488	181,986	365,250	(551,725)(1)	(54,894)	4,301,105
Income (loss) before income taxes	4,327,300	181,579	362,473	(606,021)	(56,261)(2)	4,209,070
Depreciation and amortization	263,125	55,620	9,961	18,947	-	347,653
Capital expenditures	937,011	46,360	12,939	9,929	-	1,006,239
As of December 31, 2021						
Assets	$ 8,686,216	$ 1,266,920	$ 1,195,396	$ 1,523,830 (3)	$ (141,128)(4)	$ 12,531,234

Note 13. Segment Information (Continued)

Footnotes related to the year ended December 31, 2021, segment results (in millions):

(1)	Corporate SG&A	$ (78.0)	(2)	Gross profit decrease from intra-company sales	$ (56.3)
	Company-wide equity-based compensation	(78.8)			
	Profit sharing	(379.3)			
	Other, net	(15.6)			
		$ (551.7)			
(3)	Cash and equivalents	$ 1,088.8	(4)	Elimination of intra-company receivables	$ (48.9)
	Accounts receivable	27.5		Elimination of intra-company debt	(19.6)
	Inventories	94.2		Elimination of intra-company profit in inventory	(72.6)
	Property, plant and equipment, net	128.9			$ (141.1)
	Intra-company debt	19.6			
	Other	164.8			
		$ 1,523.8			

For the year ended December 31, 2020	Steel Operations	Metals Recycling Operations	Steel Fabrication Operations	Other	Eliminations	Consolidated
Net sales - disaggregated revenue						
External	$ 6,873,209	$ 820,262	$ 895,227	$ 500,496	$ -	$ 9,089,194
External Non-United States	263,895	247,662	474	257	-	512,288
Other segments	318,533	1,335,216	10,663	434	(1,664,846)	-
	7,455,637	2,403,140	906,364	501,187	(1,664,846)	9,601,482
Operating income (loss)	889,480	32,991	120,575	(188,525)(1)	(7,379)	847,142
Income (loss) before income taxes	833,035	27,753	116,625	(263,470)	(8,465)(2)	705,478
Depreciation and amortization	251,590	50,099	10,819	13,281	-	325,789
Capital expenditures	1,132,298	32,875	15,234	17,648	-	1,198,055
As of December 31, 2020						
Assets	$ 6,288,362	$ 1,116,051	$ 376,658	$ 1,571,188 (3)	$ (86,697)(4)	$ 9,265,562

Footnotes related to the year ended December 31, 2020, segment results (in millions):

(1)	Corporate SG&A	$ (57.9)	(2)	Gross profit decrease from intra-company sales	$ (8.5)
	Company-wide equity-based compensation	(48.5)			
	Profit sharing	(58.3)			
	Asset impairment charges	(19.4)			
	Other, net	(4.4)			
		$ (188.5)			
(3)	Cash and equivalents	$ 1,276.1	(4)	Elimination of intra-company receivables	$ (61.2)
	Accounts receivable	17.0		Elimination of intra-company debt	(9.1)
	Inventories	84.7		Elimination of intra-company profit in inventory	(16.4)
	Property, plant and equipment, net	136.0			$ (86.7)
	Intra-company debt	9.1			
	Other	48.3			
		$ 1,571.2			

Note 13. Segment Information (Continued)

For the year ended December 31, 2019	Steel Operations	Metals Recycling Operations	Steel Fabrication Operations	Other	Eliminations	Consolidated
Net sales - disaggregated revenue						
External	$ 7,606,471	$ 972,200	$ 960,657	$ 388,546	$ -	$ 9,927,874
External Non-United States	298,081	225,807	1,497	11,732	-	537,117
Other segments	329,627	1,296,007	1,105	469	(1,627,208)	-
	8,234,179	2,494,014	963,259	400,747	(1,627,208)	10,464,991
Operating income (loss)	1,030,554	16,308	119,099	(186,159)(1)	7,078	986,880
Income (loss) before income taxes	963,514	11,432	114,359	(220,188)	6,220 (2)	875,337
Depreciation and amortization	251,568	46,538	11,768	11,208	-	321,082
Capital expenditures	385,058	46,959	12,446	7,482	-	451,945

Footnotes related to the year ended December 31, 2019, segment results (in millions):

(1) Corporate SG&A	$ (66.1)	(2) Gross profit increase from intra-company sales	$ 6.2
Company-wide equity-based compensation	(40.6)		
Profit sharing	(73.6)		
Other, net	(5.9)		
	$ (186.2)		

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, 2021, 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, 2021, 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, 2021, can be found on page 50 of this Form 10-K, and the related Report of Independent Registered Public Accounting Firm, Ernst & Young LLP, can be found on page 51 of this Form 10-K, each of which is incorporated by reference into this Item 9A.

ITEM 9B. OTHER INFORMATION

None.

ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS, AND CORPORATE GOVERANCE

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 "Proposal No. 1 – Election of Directors" in our Proxy Statement for the 2022 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 2022 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 2022 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, and the *Amended and Restated Steel Dynamics, Inc. 2015 Equity Incentive Plan* (2015 Plan) at our annual meeting of stockholders held May 16, 2019. 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). The following table summarizes information about our equity compensation plans at December 31, 2021, all of which have been approved by stockholders. We do not have any equity compensation plans that have not been approved by stockholders.

Plan Category	(a) Number of securities to be issued upon exercise of outstanding options, warrants and rights	(b) Weighted-average exercise price of outstanding options, warrants and rights[1]	(c) 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:			
2015 Plan and predecessor 2006 Plan (1)	2,057,800	—	4,158,788
2018 Plan	306,133	—	1,389,669
Equity compensation plans not approved by security holders	N/A	N/A	N/A
Total	2,363,933	—	5,548,457

(1) Includes 1,348,258 RSUs, 266,749 DSUs, and 442,793 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 "Governance of the Company – 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 2022 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, 2021 and 2020, and each of the three years in the periods ended December 31, 2021, 2020, and 2019, included in Item 8. *Consolidated Financial Statements and Supplementary Data* of this Form 10-K Annual Report for the fiscal year ended December 31, 2021.

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 "Proposal No. 2 – Ratification of the Appointment of Independent Registered Public Accounting Firm as Auditors – Audit and Non-Audit Fees" and "Proposal No. 2 – Ratification of the Appointment of Independent Registered Public Accounting Firm as Auditors – Policy on Audit Committee Pre-Approval of Audit and Permissible Non-Audit Services of Independent Auditor" in our Proxy Statement for the 2022 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.

PART IV

ITEM 15. EXHIBITS AND 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 49 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.

EXHIBIT INDEX

Articles of Incorporation

3.1	Amended and Restated Articles of Incorporation of Steel Dynamics, Inc., reflecting all amendments thereto through May 17, 2018, incorporated herein by reference from Exhibit 3.1e to our Form 10-Q filed August 9, 2018.
3.2	Amended and Restated Bylaws of Steel Dynamics, Inc., reflecting all amendments thereto through October 17, 2018, 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

4.1	Description of Common Stock, incorporated herein by reference from Exhibit 4.1 to our Form 10-K filed February 27, 2020.
4.27a	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.
4.27b	Form of 5.000% Senior Notes due 2026 (included in Exhibit 4.27a), incorporated herein by reference from Exhibit 4.27 to our Form 8-K filed December 8, 2016.
4.31	Indenture dated December 4, 2019, among Steel Dynamics, Inc., as Issuer, and Wells Fargo Bank, National Association, as Trustee, incorporated herein by reference from Exhibit 4.1 to our Registration Statement on Form S-3 (Registration No. 333-235343) filed December 4, 2019.
4.32	First Supplemental Indenture dated December 11, 2019, relating to our issuance of $400 million 2.800% Notes due 2024, and $600 million 3.450% Notes due 2030 among Steel Dynamics, Inc., as Issuer, and Wells Fargo Bank, National Association, as Trustee, incorporated herein by reference from Exhibit 4.2 to our Form 8-K filed December 11, 2019.
4.33	Form of 2.800% Notes due 2024 (included in Exhibit 4.32), incorporated herein by reference from Exhibit 4.3 to our Form 8-K filed December 11, 2019.
4.34	Form of 3.450% Notes due 2030 (included in Exhibit 4.32), incorporated herein by reference from Exhibit 4.4 to our Form 8-K filed December 11, 2019.
4.35	Second Supplemental Indenture, dated as of June 5, 2020, relating to our issuance of $400 million 2.400% Notes due 2025 and $500 million 3.250% Notes due 2031, between Steel Dynamics, Inc. and Wells Fargo Bank, National Association, as Trustee, incorporated herein by reference from Exhibit 4.2 to our Form 8-K filed June 5, 2020.
4.36	Form of 2.400% Notes due 2025 (included in Exhibit 4.35), incorporated herein by reference from Exhibit 4.3 to our Form 8-K filed June 5, 2020.
4.37	Form of 3.250% Notes due 2031 (included in Exhibit 4.35), incorporated herein by reference from Exhibit 4.4 to our Form 8-K filed June 5, 2020.

4.38	Third Supplemental Indenture, dated as of October 9, 2020, relating to our issuance of $350 million 1.650% Notes due 2027 and $400 million 3.250% Notes due 2050, between Steel Dynamics, Inc. and Wells Fargo Bank, National Association, as Trustee, incorporated herein by reference from Exhibit 4.2 to our Form 8-K filed October 9, 2020.
4.39	Form of 1.650% Notes due 2027 (included in Exhibit 4.38), incorporated herein by reference from Exhibit 4.3 to our Form 8-K filed October 9, 2020.
4.40	Form of 3.250% Notes due 2050 (included in Exhibit 4.38), incorporated herein by reference from Exhibit 4.4 to our Form 8-K filed October 9, 2020.

Material Contracts

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.
10.52†	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.
10.55†	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.
10.59	Credit Agreement dated as of December 3, 2019, by and among Steel Dynamics, Inc. and the agents and lenders named therein, incorporated herein by reference from Exhibit 10.59 to our Form 8-K filed December 3, 2019.
10.60†	Amended and Restated 2015 Equity Incentive Plan, as approved by shareholders on May 16, 2019, incorporated herein by reference from our May 16, 2019, Notice of Annual Meeting of Stockholders filed March 27, 2019.
10.61†	2018 Executive Incentive Compensation Plan, approved by stockholders on May 17, 2018, incorporated herein by reference from our May 17, 2018, Notice of Annual Meeting of Stockholders filed March 28, 2018.

Other

21.1*	List of our Subsidiaries.
23.1*	Consent of Ernst & Young LLP.
24.1	Powers of attorney (see signature pages on pages 89 and 90 of this Report).

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.

XBRL Documents

101.INS*	XBRL Instance Document – the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
101.SCH*	Inline XBRL Taxonomy Extension Schema Document
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	Inline XBRL Taxonomy Presentation Linkbase Document
104*	Cover page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

* Filed concurrently herewith

† Indicates a management contract or compensatory plan or arrangement.

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 28, 2022

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 or her true and lawful attorneys-in-fact and agents with full power of substitution and resubstitution, for him or her, and in his or her name, place and stead, in any and all capacities to sign any and all amendments, and supplements to this 2021 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 or her 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 2021 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	Chairman, President and Chief Executive Officer *(Principal Executive Officer)*	February 28, 2022
/s/ THERESA E. WAGLER Theresa E. Wagler	Executive Vice President and Chief Financial Officer *(Principal Financial Officer and Principal Accounting Officer)*	February 28, 2022
/s/ KEITH E. BUSSE Keith E. Busse	Director	February 28, 2022
/s/ SHEREE L. BARGABOS Sheree L. Bargabos	Director	February 28, 2022
/s/ FRANK D. BYRNE, M.D. Frank D. Byrne, M.D.	Director	February 28, 2022
/s/ KENNETH W. CORNEW Kenneth W. Cornew	Director	February 28, 2022
/s/ TRACI M. DOLAN Traci M. Dolan	Director	February 28, 2022

/s/ JAMES C. MARCUCCILLI James C. Marcuccilli	Director	February 28, 2022
/s/ BRADLEY S. SEAMAN Bradley S. Seaman	Director	February 28, 2022
/s/ LUIS M. SIERRA Luis M. Sierra	Director	February 28, 2022
/s/ GABRIEL L. SHAHEEN Gabriel L. Shaheen	Director	February 28, 2022
/s/ STEVEN A. SONNENBERG Steven A. Sonnenberg	Director	February 28, 2022
/s/ RICHARD P. TEETS, JR. Richard P. Teets, Jr.	Director	February 28, 2022

EXHIBIT 21.1

STEEL DYNAMICS, INC.
LIST OF OUR SUBSIDIARIES

Name	State of Incorporation or Organization	Percent of Capital Stock/Equity Units Owned by Steel Dynamics, Inc.	Names Under which Business is Conducted
Mesabi Nugget Delaware, LLC	Delaware	85%	
New Millennium Building Systems, LLC	Indiana	100%	
OmniSource, LLC	Indiana	100%	OmniSource
Roanoke Electric Steel Corporation	Indiana	100%	Steel Dynamics Roanoke Bar Division
Steel Dynamics Columbus, LLC	Delaware	100%	
Steel Dynamics Enterprises, Inc.	Indiana	100%	
Steel Dynamics Heartland, LLC	Delaware	100%	
Steel Dynamics Sales North America, Inc.	Indiana	100%	
Steel of West Virginia, Inc.	Delaware	100%	
STLD Holdings, Inc.	Indiana	100%	
The Techs Industries, Inc.	Delaware	100%	The Techs The Techs a Division of Steel Dynamics, Inc.
United Steel Supply, LLC	Delaware	75%	
Vulcan Threaded Products, Inc.	Indiana	100%	Vulcan Steel Products CLP Systems

EXHIBIT 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the following Registration Statements:

(1) Registration Statement (Form S-3 No. 333-235343) of Steel Dynamics, Inc.,
(2) Registration Statements (Forms S-4 Nos. 333-191627, 333-202950, 333-217162, and 333-221907) of Steel Dynamics, Inc.,
(3) Registration Statement (Form S-8 No. 333-55888) pertaining to the Amended and Restated Officer and Manager Cash and Stock Bonus Plan of Steel Dynamics, Inc.,
(4) Registration Statement (Form S-8 No. 333-133493) pertaining to the Plan Relating to Assumed Stock Options: Roanoke Electric Steel Corporation Acquisition of Steel Dynamics, Inc., and
(5) Registration Statement (Form S-8 No. 333-147271) pertaining to the 2006 Equity Incentive Plan, the Steel Dynamics, Inc. Amended and Restated 1996 Incentive Stock Option Plan, and the Steel Dynamics, Inc. Non-Employee Directors Stock Option Plan of Steel Dynamics, Inc.;

of our reports dated February 28, 2022, with respect to the consolidated financial statements of Steel Dynamics, Inc. and the effectiveness of internal control over financial reporting of Steel Dynamics, Inc. included in this Annual Report (Form 10-K) of Steel Dynamics, Inc. for the year ended December 31, 2021.

/s/ Ernst & Young LLP

Indianapolis, Indiana
February 28, 2022

EXHIBIT 31.1

CERTIFICATION PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Mark D. Millett, certify that:

1. I have reviewed this annual report on Form 10-K of Steel Dynamics, Inc. for 2021;

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

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

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

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

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

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

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

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

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

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

Date: February 28, 2022

/s/ MARK D. MILLETT
Mark D. Millett
Chairman, President and Chief Executive Officer
(*Principal Executive Officer*)

EXHIBIT 31.2

CERTIFICATION PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Theresa E. Wagler, certify that:

1. I have reviewed this annual report on Form 10-K of Steel Dynamics, Inc. for 2021;

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

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

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

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

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

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

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

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

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

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

Date: February 28, 2022

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

EXHIBIT 32.1

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

In connection with the Annual Report of Steel Dynamics, Inc. (the "Company") on Form 10-K for the year ended December 31, 2021, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Mark D. Millett, Chief Executive Officer of the Company, certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ MARK D. MILLETT
Mark D. Millett
Chairman, President and Chief Executive Officer
(*Principal Executive Officer*)

February 28, 2022

A signed original of this written statement required by Section 906 has been provided to Steel Dynamics, Inc. and will be retained by Steel Dynamics, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

EXHIBIT 32.2

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

In connection with the Annual Report of Steel Dynamics, Inc. (the "Company") on Form 10-K for the year ended December 31, 2021, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Theresa E. Wagler, Executive Vice President and Chief Financial Officer of the Company, certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

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

February 28, 2022

A signed original of this written statement required by Section 906 has been provided to Steel Dynamics, Inc. and will be retained by Steel Dynamics, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.