**UNITED STATES**
**SECURITIES AND EXCHANGE COMMISSION**
**WASHINGTON, D.C. 20549**

# FORM 10-K

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the fiscal year ended December 31, 2022

or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the transition period from _____ to _____

Commission file number 1-14303

# AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.

(Exact name of registrant as specified in its charter)

| | |
|---|---|
| **Delaware** | **38-3161171** |
| (State or other jurisdiction of incorporation or organization) | (I.R.S. Employer Identification No.) |
| **One Dauch Drive, Detroit, Michigan** | **48211-1198** |
| (Address of principal executive offices) | (Zip Code) |

**313-758-2000**
(Registrant's telephone number, including area code)

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

| Title of Each Class | Trading Symbol(s) | Name of Each Exchange on Which Registered |
|---|---|---|
| **Common Stock, Par Value $0.01 Per Share** | **AXL** | **New York Stock Exchange** |

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

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

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

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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company, ”and “emerging growth company” in Rule 12b-2 of the Exchange Act).
Large accelerated filer ☒ Accelerated filer ☐ Non-accelerated filer ☐ Smaller reporting company ☐ Emerging growth company ☐

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

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

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

The closing price of the Common Stock on June 30, 2022 as reported on the New York Stock Exchange was $7.53 per share and the aggregate market value of the registrant's Common Stock held by non-affiliates was approximately $848.9 million. As of February 14, 2023, the number of shares of the registrant's Common Stock, $0.01 par value, outstanding was 114,579,669 shares.

**Documents Incorporated by Reference**

Portions of the registrant's Annual Report to Stockholders for the year ended December 31, 2022 and Proxy Statement for use in connection with its Annual Meeting of Stockholders to be held on May 4, 2023, to be filed with the Securities and Exchange Commission pursuant to Regulation 14A not later than 120 days after December 31, 2022, are incorporated by reference in Part I (Items 1, 1A, 1B, 2, 3 and 4), Part II (Items 5, 6, 7, 7A, 8, 9, 9A, 9B and 9C), Part III (Items 10, 11, 12, 13 and 14) and Part IV (Item 15) of this Report.

**AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.**
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## Part I

### Item 1. Business

As used in this report, except as otherwise indicated in information incorporated by reference, references to “our Company,” "we," "our," "us" or “AAM” mean American Axle & Manufacturing Holdings, Inc. (Holdings) and its subsidiaries and predecessors, collectively.

***General Development of Business***

Holdings, a Delaware corporation, is a successor to American Axle & Manufacturing of Michigan, Inc., a Michigan corporation, pursuant to a migratory merger between these entities in 1999. In 2017, we acquired Metaldyne Performance Group, Inc. (MPG), with MPG becoming a wholly-owned subsidiary of Holdings.

***Narrative Description of Business***

*Company Overview*

As a leading global tier 1 automotive and mobility supplier, AAM designs, engineers and manufactures Driveline and Metal Forming technologies to support electric, hybrid and internal combustion vehicles. Headquartered in Detroit with over 80 facilities in 18 countries, AAM is bringing the future faster for a safer and more sustainable tomorrow.

*Major Customers*

We are a primary supplier of driveline components to General Motors Company (GM) for its full-size rear-wheel drive (RWD) light trucks, sport utility vehicles (SUV), and crossover vehicles manufactured in North America, supplying a significant portion of GM's rear axle and four-wheel drive and all-wheel drive (4WD/AWD) axle requirements for these vehicle platforms. We also supply GM with various products from our Metal Forming segment. Sales to GM were approximately 40% of our consolidated net sales in 2022, 37% in 2021, and 39% in 2020.

We also supply driveline system products to Stellantis N.V. (Stellantis) for programs including the heavy-duty Ram full-size pickup trucks and its derivatives and the AWD Chrysler Pacifica. In addition, we sell various products to Stellantis from our Metal Forming segment. Sales to Stellantis were approximately 18% of our consolidated net sales in 2022, and 19% in both 2021 and 2020.

We are also a supplier to Ford Motor Company (Ford) for driveline system products on certain vehicle programs including the Bronco Sport, Maverick, Edge, Escape and Lincoln Nautilus, and we also sell various products to Ford from our Metal Forming segment. Sales to Ford were approximately 12% of our consolidated net sales in 2022, 2021 and 2020.

No other customer represented 10% or more of consolidated net sales during these periods.

*Business Strategy*

We have aligned our business strategy to build value for our key stakeholders. We accomplish our strategic objectives by capitalizing on our competitive strengths and continuing to diversify our customer, product and geographic sales mix, while providing exceptional value to our customers. We are focused on securing and enhancing our core business of internal combustion engine (ICE) programs by delivering operational excellence and quality products to our customers, while growing our electrification business, as vehicle electrification is expected to be the foundation of the future of the automotive industry.

**Competitive Strengths**

We achieve our strategic objectives by emphasizing a commitment to:

Sustaining our operational excellence and focus on cost management.

- In 2022, AAM received the 2021 GM Overdrive Award, which is awarded to suppliers who display outstanding achievement within GM's Global Purchasing and Supply Chain organization's key priorities, including sustainability, innovation, relationships, total enterprise cost, launch excellence and safety. This was the second consecutive year we received this award.

- We deliver operational excellence by leveraging our global standards, policies and best practices across all disciplines through the use of the AAM Operating System, which includes our $S^4$ (S-to-the-fourth) safety system, $Q^4$ (Q-to-the-fourth) quality system and $E^4$ (E-to-the-fourth) energy and environmental sustainability system. We use this system to focus on customer satisfaction, lean production and efficient cost management, which allows us to improve quality, eliminate waste, and reduce lead time and total costs globally. Additionally, throughout 2022, we have continued our emphasis on cost management in order to mitigate the financial impact of the significant disruptions in the supply chain that the automotive industry experienced, and continues to experience, including a shortage of semiconductor chips used by our customers, increased metal and commodity costs, higher utility costs, increased transportation costs and labor shortages which have led to volatility in our production schedules, higher inventory levels and increased labor costs.

- We maintain a cost competitive, operationally flexible global manufacturing, engineering and sourcing footprint to compete in global growth markets, support global product development initiatives and maintain regional cost competitiveness.

- Our business is vertically integrated to reduce cost and mitigate risk. Our Metal Forming segment, in addition to supplying component parts to many external customers, is a key supplier to our Driveline segment, helping to ensure continuity of supply for certain parts to our largest manufacturing facilities.

- During 2022, we launched 17 programs across our business units for our customers including GM, Stellantis, Ford, Mercedes-AMG and NIO Inc. In 2023, we expect to launch approximately 17 new and replacement programs for a variety of customers across our business units, including GM, Mercedes-AMG, BMW and Chery, as well as e-Beam axles for a battery electric commercial vehicle produced by EKA Mobility, a subsidiary of Pinnacle Industries Limited.

Maintaining our high quality standards, which are the foundation of our product durability and reliability.

- AAM has a robust internal quality assurance system that drives continuous improvement to meet and exceed the growing expectations of our OEM customers.

- In 2022, four of our global facilities received the GM Supplier Quality Excellence Award for outstanding quality performance during the 2021 performance year.

- AAM was also recognized in 2022 for quality in the 2021 performance year by several other customers including the Paccar 10 PPM Quality Award at our Glasgow, United Kingdom facility, the Daimler Zero Defect Award at our Chennai, India facility and the Daimler Master of Quality Award at our El Carmen, Mexico facility. It was the second consecutive year that each facility earned their respective quality award.

Achieving technology leadership by delivering innovative products that enhance our product portfolio while increasing our total global served market. We are focused on securing our core business, as the cash flows generated from our existing programs and products contribute to our research and development (R&D) investments in electrification technology that are expected to bring the future of the automotive industry faster.

*Securing and Enhancing Our Core Business*

- During 2022, AAM announced that we were named as new axle supplier for GM's next generation of the Chevrolet Colorado and GMC Canyon mid-size pickup trucks. Additionally, in the prior year, AAM was named the sole supplier of front and rear pickup axles for production at GM's Oshawa, Canada facility and also secured multiple next-generation full-size truck front and rear axle programs with multiple OEM customers. These awards are expected to generate revenues from mid-decade to beyond 2030.

- AAM has established a high-efficiency product portfolio that is designed to improve axle efficiency and fuel economy through innovative product design technologies. As our customers focus on reducing weight through the use of aluminum and other lightweighting alternatives, AAM is well positioned to offer innovative, industry leading solutions. Our portfolio includes high-efficiency axles, aluminum axles and AWD applications. AAM's lightweight axle technology features an innovative design, which offers significant mass reduction and increased fuel economy and efficiency that is scalable across multiple applications without the loss of performance or power.

- Our Metal Forming segment represents the largest automotive forging operation in the world, and provides engine, transmission, driveline and safety-critical components for light, commercial and industrial vehicles. We have developed advanced forging and machining process technologies to manufacture lightweight, highly precise and power-dense products. Our forged axle tubes deliver significant weight and cost reductions as compared to the traditional welded axle tubes.

- AAM's Advanced Technology Development Center (ATDC) at our Detroit campus, allows us to accelerate technological advancements. This state-of-the-art facility is our center for technology benchmarking, prototype development, advanced technology development, supplier collaboration, customer showcasing and associate training on our future products, processes, and systems. Our Rochester Hills Technical Center (RHTC) works closely with the ATDC to test and validate new and advanced technologies focused on lightweighting, efficiency and vehicle performance using enhanced diagnostic and hardware assessment capabilities. Our European Headquarters and Engineering Center (EHEC) in Langen, Germany, serves as our center of excellence for research and development, product testing and prototype development in Europe. Additionally, during 2022, we launched our Innovation Center at the Richard E. Dauch Institute in Mexico, which is focused on identifying ways to improve productivity while implementing manufacturing solutions, as well as educating our associates on process optimization and technology advances.

*Bringing the Future Faster*

- AAM's investment in R&D has resulted in the development of advanced technology products designed to assist our customers in meeting the market demands for vehicle electrification; advanced and sophisticated electronic controls; lower emissions; enhanced power density; improved ride and handling performance; and enhanced reliability and durability.

- AAM's electric drive technology is designed, engineered and manufactured to provide a diverse and scalable product portfolio of hybrid and electric driveline systems to our customers that range from low-cost value-oriented offerings to high-performance solutions. This includes our e-Beam axles which incorporate high-reduction gearboxes and highly-integrated inverters. These hybrid and electric driveline systems leverage AAM's experience in power density, torque transfer, noise-vibration-harshness reduction, heat management and systems integration, and are designed to improve fuel efficiency, reduce $CO_2$ emissions and provide AWD capability. Additionally, AAM's next generation of scalable and modular e-drive systems, have exceeded widely recognized industry benchmarks for efficiency, mass and power density. Our e-drive technology is designed to be segment agnostic, enabling our products to have applications to a variety of markets and vehicle types.

- In 2022, we enhanced our electrification product portfolio through our acquisition of Tekfor Group (Tekfor), which is a leading provider of driveline and powertrain components for both ICE and hybrid vehicles, as well as e-mobility applications.

- Also in 2022, AAM's electric drive innovations were recognized by Automotive News with three PACE awards, which are among the industry's most prestigious awards regarding innovation. AAM's electric drive technology on the Mercedes-AMG GT 63 S E Performance was awarded a PACE award, as well as a PACE Innovation Partnership award for our high level of collaboration with Mercedes-AMG on the program. Additionally, AAM's highly integrated three-in-one wheel-end electric drive unit was awarded a PACEpilot Innovation to Watch award, which recognizes post-pilot, pre-commercial innovation in the automotive and future mobility industry.

- To date, our hybrid and electric driveline systems have been awarded multiple contracts, including a high-performance hybrid-electric system with Mercedes-AMG and electric vehicle components with NIO to support a next-generation e-powertrain program. We also expect to launch several additional programs for hybrid and electric vehicles, including e-Beam axles for EKA Mobility's battery electric commercial vehicle and components for the full-hybrid Ford Maverick pickup truck.

**Diversification of Customer, Product and Geographic Sales Mix**

Another element of building value for our key stakeholders is the diversification of our business through the growth of new and existing customer relationships and expansion of our product portfolio.

- In addition to maintaining and building upon our longstanding relationships with GM, Stellantis and Ford, we are focused on generating profitable growth with new and existing global customers. Recent new business awards and program launches include customers such as Mercedes-AMG, Chery Automobile Co. Ltd., NIO Inc. and EKA Mobility.

- Electrification is a growing portion of our new and incremental business backlog, as well as our quoted and emerging new business opportunities, and is a significant element of our future growth strategy.

- We continue to evaluate and consider strategic opportunities that will complement our core strengths and supplement our diversification strategies while providing future, profitable growth prospects. Our acquisition of Tekfor in 2022 is an example of our tactical approach to strategic transactions.

We are focused on increasing our presence in global markets to support our customers' platforms.

- As our customers design their products for global markets, they will continue to require global support from their suppliers. For this reason, it is critical that we maintain a global presence in these markets in order to remain competitive for new contracts. To expand our global capabilities, in 2021 we launched our EHEC, AAM's European center for excellence in research and development, product testing and prototype development. Establishing our EHEC is a critical step in furthering our relationships with European OEM customers.

- We are a partner in a joint venture (JV) with Liuzhou Wuling Automobile Industry Co., Ltd. (Liuzhou AAM), a subsidiary of Guangxi Automotive Group Co., Ltd, which manufactures independent rear axles and driveheads to be used on crossovers, including SUVs, minivans and multi-purpose vehicles. An electric drive unit developed by our Liuzhou AAM JV has been featured on the all-electric Baojun E300 Plus vehicle from SAIC-GM-Wuling. We are also a partner in a JV with Hefei Automobile Axle Co., Ltd. (HAAC), a subsidiary of the JAC Group (Anhui Jianghuai Automotive Group Co., Ltd.), which includes 100% of HAAC's light commercial axle business. HAAC supplies front and rear beam axles to several leading Chinese light truck manufacturers, including JAC and Foton (Beiqi Foton Motor Co., Ltd.). These joint ventures have served as a strong advantage in building relationships with leading Chinese manufacturers.

*Competition*

We compete with a variety of independent suppliers and distributors, as well as with the in-house operations of certain vertically integrated OEMs. Technology, design, quality, delivery and cost are the primary elements of competition in our industry segments. In addition to traditional competitors in the automotive sector, the trend toward electrification and advanced electronic integration has increased the level of new market entrants. Further, some traditional automotive industry participants are developing strategic partnerships with technology companies as each party seeks to leverage the existing customer relationships and technical knowledge of the partner, and expedite the development and commercialization of new technology.

*Industry Trends*

See Item 7, “Management's Discussion and Analysis - Industry Trends.”

*Productive Materials*

We believe that we have adequate sources of supply of productive materials and components for our manufacturing needs, including steel, aluminum and other metallic materials, and resources used for vehicle electrification and electronic integration. Most raw materials (such as steel) and semi-processed or finished items are available within the geographical regions of our operating facilities from qualified sources in quantities sufficient for our needs. We currently have contracts with our steel suppliers that help to ensure continuity of supply to our principal operating facilities. We also have validation and testing capabilities that enable us to strategically qualify steel sources on a global basis. As we continue to expand our global manufacturing footprint, we may need to rely on suppliers in local markets that have not yet proven their ability to meet our requirements.

During 2022, the automotive industry experienced, and continues to experience, significant disruptions in the supply chain, including a shortage of semiconductor chips used by our customers and increased metal and commodity costs. We continue to work with customers and suppliers in our effort to protect continuity of supply as we expect these challenges to continue in 2023.

*Patents and Trademarks*

We maintain and have pending various United States (U.S.) and foreign patents, trademarks and other rights to intellectual property relating to our business, which we believe are appropriate to protect our interest in existing products, new inventions, manufacturing processes and product developments. We do not believe that any single patent or trademark is material to our business, nor would expiration or invalidity of any patent or trademark have a material adverse effect on our business or our ability to compete.

*Cyclicality and Seasonality*

Our operations are cyclical because they are directly related to worldwide automotive production, which is itself cyclical and dependent on general economic conditions and other factors. Typically, our business is moderately seasonal as our major OEM customers historically have an extended shutdown of operations (typically 1-2 weeks) in conjunction with their model year changeover and an approximate one-week shutdown in the month of December. Our major OEM customers also occasionally have longer shutdowns of operations (up to 6 weeks) for program changeovers. Accordingly, our quarterly results may reflect these trends.

*Litigation and Environmental Matters*

We are involved in, or potentially subject to, various legal proceedings or claims incidental to our business. These include, but are not limited to, matters arising out of product warranties, contractual matters, and environmental obligations. Although the outcome of these matters cannot be predicted with certainty, at this time we do not believe that any of these matters, individually or in the aggregate, will have a material adverse effect on our financial condition, results of operations or cash flows.

We file U.S. federal, state and local income tax returns, as well as foreign income tax returns in jurisdictions throughout the world. We are also subject to examinations of these tax returns by the relevant tax authorities. Negative or unexpected outcomes of these examinations and audits, and any related litigation, could have a material adverse impact on our results of operations, financial condition and cash flows.

We are subject to various federal, state, local and foreign environmental and occupational safety and health laws, regulations and ordinances, including those regulating air emissions, water discharge, waste management and environmental cleanup. We will continue to closely monitor our environmental conditions to ensure that we are in compliance with all laws, regulations and ordinances. We have made, and anticipate continuing to make, capital and other expenditures (including recurring administrative costs) to comply with environmental requirements at our current and former facilities. Such expenditures were not significant in 2022, 2021 and 2020.

**Environmental, Social and Governance**

*Environmental Sustainability*

We are committed throughout our operations to the conservation and protection of our natural resources and the environment. The AAM Operating System includes our $E^4$ (E-to-the-fourth) system, which is AAM's energy and environmental sustainability program designed to drive continuous improvement in our operations by reducing energy consumption, greenhouse gas (GHG) emissions and water usage, while minimizing waste and lessening the environmental impact of our production operations. Additionally, during 2022, we committed to reaching net-zero carbon emissions by 2040, and achieved the validation of our net-zero emissions targets by the climate-action organization Science Based Targets Initiative. We also established a goal to purchase 100% of energy for our operations in the U.S. from renewable sources by 2025.

We are subject to risks of environmental issues, including impacts of climate-related events, that could result in unforeseen disruptions or costs to our operations. We did not experience any climate-related events in 2022, 2021 or 2020 that we believe could have a material adverse impact on our results of operations, financial condition and cash flows.

*Human Capital Management*

Our ability to sustain and grow our business requires us to attract, retain and develop a highly skilled and diverse workforce. We employ approximately 19,000 associates on a global basis, of which 6,000 are employed in the U.S. and 13,000 are employed at our non-U.S. locations. Approximately 5,000 are salaried associates and approximately 14,000 are hourly associates. Of the 14,000 hourly associates, approximately 69% are represented under collective bargaining agreements with various labor unions.

*Creating a Diverse, Equitable and Inclusive Culture*

At AAM, we believe diversity drives creativity. We believe an equitable and inclusive culture encourages, supports and celebrates the unique voices of our global workforce. AAM is committed to listening, learning and taking action that will move our company and our communities forward, together. Embracing diversity promotes innovation and helps AAM to attract and retain the best talent everywhere we do business.

AAM's commitment to Diversity, Equity and Inclusion (DEI) begins with our Board of Directors (Board). The Board's active oversight reflects the importance of our DEI journey to our business and demonstrates the power of accountability to this critical initiative. With oversight from our Board and direction from senior leadership, our DEI Steering Committee (DEI Committee) helps to ensure that our initiatives are guided by the experiences and recommendations of our associates. Comprised of talented and diverse associates, the DEI Committee helps develop new company initiatives designed to advance a respectful and inclusive company culture and to reinforce the importance of inclusion at AAM. AAM has established five pillars for our DEI program: enhancing DEI skills, maintaining a safe and inclusive environment, providing equitable talent management and inclusive benefits and policies, supporting stakeholder engagement and reinforcing leadership ownership and accountability.

In 2022, we continued our commitment to initiatives that foster a culture of inclusion and develop a more diverse workforce. Key initiatives included:

- We launched our DEI Global 2+1 Program, which was designed to enable global participation in our DEI journey. Our two global DEI topics this year were understanding and valuing differences and improving the representation of women in our global workforce. AAM facilities in each country also chose one additional topic (+1) that will drive their DEI journey.
- We set 2030 demographic goals around these global 2+1 DEI topics.
- We dedicated additional resources by hiring a DEI executive who serves as the chairperson of the DEI Committee and directs global DEI initiatives.
- We facilitated additional Associate Resource Groups (ARGs), which provide a forum for associates with shared experiences, characteristics or backgrounds to connect and enhance career and personal development. Our ARGs include: POWhER, Young Professionals, U.S. Veterans, Black Associate Network and Latin America Talent Inclusion Network.

*Attracting and Retaining Associates*

Our AAM360 program serves as the foundation for our recruitment and retention strategy. Its four components are designed to enhance our associates' experience at AAM and includes associate health and safety, professional development, competitive compensation and benefits and the global community. These programs offer resources, tools and events that are designed to empower associates in their work and personal lives. Empowerment of our associates is essential to continuously improving our quality performance, technology leadership and operational excellence and enabling our associates to grow professionally into the leaders that will guide AAM into the future.

Our AAM360 program assists management in developing and implementing standards for recruitment and selection of a knowledgeable and diverse workforce, promoting learning and growth and driving effective performance while fostering an environment of open communication with AAM leadership in a variety of formats, including townhall-style meetings. AAM associates can also raise issues and concerns to the attention of management through the use of associate surveys and our 24/7 ethics hotline. Through our AAM360 program, AAM management monitors workforce demographics and attrition, associate performance data, succession and development plans and feedback from associates to ensure that our associates' experience is meeting these objectives.

During 2022, the automotive industry experienced, and continues to experience, significant disruptions in the supply chain, including labor shortages in a variety of positions and experience levels. We are taking measures to address these labor issues across our global operations to mitigate the impact to AAM, including actively managing production schedules and reviewing our compensation and benefit programs to ensure that they are competitive with local markets, and working with union organizations that represent certain associates.

*Developing Associates*

We have established sustainable and adaptable talent management programs focused on the training and development of our associates. These programs are designed to help associates realize their full potential by understanding the expectations of their current role and setting goals for future growth and learning, which contributes to the overall success of AAM.

*Health and Wellness Programs*

At AAM, the health of our associates is very important to us. We maintain a comprehensive, interactive and personalized wellness program to make it easy for our associates and their families to live a healthier lifestyle and help achieve personal wellness goals.

*S⁴ (S-to-the-Fourth) Safety System*

At AAM, our first responsibility every day, in every facility, is the safety of our global associates. AAM's S⁴ safety system is focused on developing, engaging, monitoring, and continuously educating our associates on standardized procedures that are the basis of our safety culture and safety policy.

The primary goal of S⁴ is to achieve compliance with all internal and external requirements and regulations while driving behavioral changes to maintain a safe and environmentally friendly workplace. At AAM, we believe safety performance is a journey where each facility strives to achieve S⁴ by moving from a reactive safety environment to an interdependent safety environment.

We are focused on continuous improvement of the S⁴ system and in our total recordable incident rate (TRIR) in every facility. We continuously monitor our facilities progress in the S⁴ Safety System. In 2022, our TRIR was 0.95 – a reduction of approximately 55% in recordable injuries since the S⁴ program began in 2015.

*Partnering with our Global Communities*

AAM believes that we have a responsibility to give back to the communities in which we live and work. AAM has long-standing relationships with charitable organizations to support local families, youth outreach, education, wellness, and social equality. We support global organizations with both donations and volunteer hours, and AAM associates across the globe regularly participate in charitable and community events that allow our team to contribute to causes important to them.

*Executive Officers of AAM*

| Name | Age | Position |
|---|---|---|
| David C. Dauch | 58 | Chairman of the Board & Chief Executive Officer |
| Michael K. Simonte | 59 | President |
| David E. Barnes | 64 | Vice President & General Counsel |
| Terri M. Kemp | 57 | Senior Vice President - Human Resources |
| Michael J. Lynch | 58 | Chief Operating Officer |
| Christopher J. May | 53 | Executive Vice President & Chief Financial Officer |
| Tolga I. Oal | 51 | President - Driveline |
| Norman Willemse | 66 | President - Forging |

**David C. Dauch**, age 58, has been AAM's Chief Executive Officer since September 2012. Mr. Dauch has served on AAM's Board of Directors since April 2009 and was appointed Chairman of the Board in August 2013. From September 2012 through August 2015, Mr. Dauch served as AAM's President & CEO. Prior to that, Mr. Dauch served as President & Chief Operating Officer (2008 - 2012) and held several other positions of increasing responsibility from the time he joined AAM in 1995. Presently, he serves on the boards of Business Leaders for Michigan, the Detroit Regional CEO Council, the Detroit Economic Club, the Detroit Regional Chamber, the Detroit Regional Partnership, the Detroit Mayor's Workforce Development Board, the Great Lakes Council Boy Scouts of America, the Boys & Girls Club of Southeast Michigan, the National Association of Manufacturers (NAM), Amerisure Mutual Holdings, Inc. and the Amerisure Companies (since December 2014). Mr. Dauch also serves on the Miami University Business Advisory Council, the Michigan ESG Leadership Council and the General Motors Supplier Council.

**Michael K. Simonte,** age 59, has been President since August 2015. Mr. Simonte previously served as Executive Vice President & Chief Financial Officer (since February 2009); Group Vice President - Finance & Chief Financial Officer (since December 2007); Vice President - Finance & Chief Financial Officer (since January 2006); Vice President & Treasurer (since May 2004); and Treasurer (since September 2002). Mr. Simonte joined AAM in December 1998 as Director, Corporate Finance. Prior to joining AAM, Mr. Simonte served as Senior Manager at the Detroit office of Ernst & Young LLP. Mr. Simonte is a certified public accountant.

**David E. Barnes**, age 64, has been General Counsel and Corporate Secretary since joining AAM in 2012, and became a Vice President in 2017. In addition to his responsibilities as General Counsel and Corporate Secretary, he also serves as the Chief Compliance Officer of AAM. Prior to joining AAM, Mr. Barnes served as Executive Vice President, General Counsel and Secretary for Atlas Oil Company. He has held various positions during his career at Ford Motor Company, Dykema Gossett and Venture Holdings LLC, after beginning his career at Honigman, Miller, Schwartz and Cohn. Mr. Barnes holds a juris doctor degree.

**Terri M. Kemp,** age 57, has been Senior Vice President - Human Resources since January 2023. Prior to that, she served as Vice President - Human Resources (since September 2012), Executive Director - Human Resources & Labor Relations (since November 2010), Executive Director - Human Resources (since September 2009), Director - Human Resources Operations (since October 2008), and served in various plant and program management roles since joining AAM in July 1996. Prior to joining AAM, Mrs. Kemp served for nine years at Corning Incorporated, where she progressed through a series of manufacturing positions with increasing responsibility, including Industrial Engineer, Department Head and Operations Manager.

**Michael J. Lynch**, age 58, has been AAM's Chief Operating Officer since December 2022. Prior to that, he served as President - Driveline (since November 2021), Vice President - Finance & Controller (since February 2017), Vice President - Driveline Business Performance & Cost Management (since May 2015); Vice President - Finance & Controller (since September 2012); Executive Director & Controller (since October 2008); Director - Commercial Analysis (since July 2006); Director - Finance, Driveline Americas (since March 2006); Director - Investment & Commercial Analysis (since November 2005); Director - Finance, Driveline (since October 2005); Director - Finance Operations, U.S. (since April 2005); Manager - Finance (since June 2003); Manager - Finance, Forging Division (since September 2001); Finance Manager - Albion Automotive (since October 1998); Supervisor - Cost Estimating (since February 1998) and Financial Analyst at the Detroit Manufacturing Facility since joining AAM in September 1996. Prior to joining AAM, Mr. Lynch served at Stellar Engineering for nine years in various capacities.

**Christopher J. May**, age 53, has been Executive Vice President & Chief Financial Officer since January 2023. Prior to that, he served as Vice President & Chief Financial Officer (since August 2015), Treasurer (since December 2011); Assistant Treasurer (since September 2008); Director of Internal Audit (since September 2005); Divisional Finance Manager - Metal Formed Products (since June 2003); Finance Manager - Three Rivers Manufacturing Facility (since August 2000); Manager, Financial Reporting (since November 1998) and Financial Analyst since joining AAM in 1994. Prior to joining AAM, Mr. May served as a Senior Accountant for Ernst & Young. Mr. May is a certified public accountant.

**Tolga I. Oal**, age 51, has been President - Driveline, since December 2022 when he rejoined AAM after serving as Co-Chief Executive Officer of Howmet Aerospace until October 2021. From 2015 to 2019, he served in various executive positions at AAM including Senior Vice President - Global Procurement and Supplier Quality Engineering (since January 2019), President - Driveline (since September 2018), and Senior Vice President - AAM and President - AAM North America (since September 2015). Prior to joining AAM in 2015, Mr. Oal served as Vice President of Global Electronics for TRW Automotive, since 2012. Before that, Mr. Oal served in various manufacturing and management positions of increasing responsibility within TRW for Global Electronics, including Director of Operations and as Director of Finance. Prior to joining TRW, Mr. Oal held various leadership positions in engineering, sales, purchasing, and finance at Siemens VDO Automotive/Continental.

**Norman Willemse,** age 66, has been President - Forging, since December 2022. Prior to that, he served as President - Metal Forming (since August 2015), Vice President - Metal Formed Product Business Unit (since December 2011); Vice President - Global Metal Formed Product Business Unit (since October 2008); Vice President - Global Metal Formed Product Operations (since December 2007); General Manager - Metal Formed Products Division (since July 2006) and Managing Director - Albion Automotive (since joining AAM in August 2001). Prior to joining AAM, Mr. Willemse served at AS Transmissions & Steering (ASTAS) for seven years as Executive Director Engineering Group Manager Projects and Engineering and John Deere for over 17 years in various engineering positions of increasing responsibility. Mr. Willemse is a professional certified mechanical engineer.

*Internet Website Access to Reports*

The website for American Axle & Manufacturing Holdings, Inc. is www.aam.com. Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports filed or furnished pursuant to section 13(a) or 15(d) of the Securities Exchange Act of 1934 are available free of charge through our website as soon as reasonably practicable after they are electronically filed with, or furnished to, the Securities and Exchange Commission (SEC). The SEC also maintains a website at www.sec.gov that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC. The information contained in the Company's website is not included, or incorporated by reference, in this Annual Report on Form 10-K.

## Item 1A. Risk Factors

The following risk factors and other information included in this Annual Report on Form 10-K should be considered as our business, financial condition, operating results and cash flows could be materially adversely affected if any of the following risks occur.

### Risks Related to Our Operations

***Our business has been, and could continue to be, adversely affected by disruptions in our supply chain and our customers' supply chain.***

We depend on a limited number of suppliers for certain key components and materials needed for our products. We rely upon, and expect to continue to rely upon, certain suppliers for critical components and materials that are not readily available in sufficient volume from other sources. As we continue to expand our global manufacturing footprint, we may need to rely on suppliers in local markets that have not yet proven their ability to meet our requirements. These supply chain characteristics make us susceptible to supply shortages and price increases. If production volumes increase rapidly, there can be no assurance that the suppliers of critical components and materials will be able or willing to meet our future needs on a timely basis. A significant disruption in the supply of components or materials could have a material adverse effect on our results of operations and financial condition.

Our supply chain, as well as our customers' supply chain, is also at risk of unanticipated events such as pandemic or epidemic illness, including the ongoing impact of COVID-19 in certain regions in which we operate, natural disasters, industrial incidents, changes in governmental regulations and trade agreements, or financial or operational instability of suppliers that could cause a disruption in the supply of critical components to us and our customers. For example, the automotive industry has experienced, and continues to experience, significant disruptions in the supply chain, including a shortage of semiconductor chips used by our customers, increased metal and commodity costs, global logistical constraints, and increased transportation costs. As a result, we have experienced increased volatility in our sales and production schedules, including manufacturing downtime, often with little notice from customers, and increased inventory levels, which have negatively impacted our production efficiency and financial condition.

In addition, we are also experiencing a significant shortage of hourly labor availability in certain regions in which we operate. This labor shortage has contributed to production volatility and inefficiencies in the manufacturing process, as well as increased labor costs. If we cannot secure sufficient hourly labor resources, we may be unable to protect continuity of supply and meet customer demand, which could have a material adverse effect on our results of operations and financial condition.

***Our business could be adversely affected by volatility in the price or availability of raw materials, utilities, natural resources and transportation.***

We may experience volatility, whether from inflation or otherwise, in the cost or availability of raw materials used in production, including steel, aluminum and other metallic materials, and resources used in electronic components, or in the cost or availability of utilities and natural resources used in our operations, such as electricity, water and natural gas. We may also experience volatility in the cost or availability of freight and logistics carriers as a result of supply chain constraints. If we are unable to pass such cost increases on to our customers, or are otherwise unable to mitigate these cost increases, or if we are unable to obtain adequate supply of raw materials, utilities and natural resources, this could have a material adverse effect on our results of operations and financial condition.

***Our business is significantly dependent on sales to GM, Stellantis and Ford.***

Sales to GM were approximately 40% of our consolidated net sales in 2022, 37% in 2021, and 39% in 2020. A reduction in our sales to GM, or a reduction by GM of its production of light truck, SUV or crossover vehicle programs that we support, as a result of market share losses of GM or otherwise, could have a material adverse effect on our results of operations and financial condition.

Sales to Stellantis accounted for approximately 18% of our consolidated net sales in 2022, and 19% in both 2021 and 2020, and sales to Ford accounted for approximately 12% of our consolidated net sales in 2022, 2021 and 2020. A reduction in our sales to either Stellantis or Ford or a reduction by Stellantis or Ford of their production of the programs we support, as a result of market share losses or otherwise, could have a material adverse effect on our results of operations and financial condition.

Our business may also be adversely affected by reduced demand for the product programs we currently support, or anticipate supporting in the future, or if we do not obtain sales orders for successor programs that replace our current product programs, as a result of a shift in vehicle architecture from ICE to electrification, or otherwise.

***Our business is dependent on our Guanajuato Manufacturing Complex.***

A high concentration of our global business is supported by our Guanajuato Manufacturing Complex (GMC) in Mexico. GMC represents a significant portion of our net sales, profitability and cash flow from operations and we expect GMC to continue to represent a substantial portion of these metrics for the foreseeable future. A significant disruption to our GMC operations, as a result of changes in trade agreements between Mexico and other jurisdictions, including the U.S., tariffs, tax law changes, labor disputes or shortages, natural disasters, availability of natural resources or utilities, pandemic or epidemic illness, or otherwise, could have a material adverse impact on our results of operations and financial condition.

***A failure of our information technology (IT) networks and systems, or the impact of a cyber attack, could adversely impact our business and operations.***

We rely upon information technology networks and systems to process, transmit and store electronic information, and to manage or support a variety of critical manufacturing and business processes or activities. Additionally, we and certain of our third-party vendors collect and store personal or confidential information, including personally identifiable information, in connection with human resources operations and other aspects of our business. The secure operation of these information technology networks and systems and the proper processing and maintenance of this information are critical to our manufacturing and business operations. We cannot be certain that the security measures we have in place to protect these systems and data will be successful or sufficient to protect our IT systems from current and emerging technology threats and damage from computer viruses, unauthorized access, cyber attack and other similar disruptions. The occurrence of any of these events could compromise our networks, and the information stored there could be accessed, publicly disclosed or lost. Any such access, disclosure or other loss of information could result in legal claims or proceedings, liability or regulatory penalties under laws protecting the privacy of personal information, the disruption of our operations or damage to our reputation. In the future, we may be required to incur significant costs to protect against or repair damage caused by these disruptions or security breaches, or as a result of implementing business continuity processes in response to disruptions or security breaches.

***Our company, our suppliers or our customers and their suppliers may not be able to successfully and efficiently manage the timing and costs of new product program launches.***

Certain of our customers are preparing to launch new product programs for which we will supply newly developed products and related components. There can be no assurance that we will successfully complete the transition of our manufacturing facilities and resources to support these new product programs or other future product programs on a timely and cost efficient basis. Accordingly, the launch of new product programs, or a shift in product mix from traditional ICE programs to hybrid and electric vehicle programs, may adversely affect production rates or other operational efficiency and profitability measures at our facilities. We may also experience difficulties with the performance of our supply chain, or the supply chains of customers and their suppliers, on program launches, which could result in our inability to meet our contractual obligations to key customers. Production shortfalls or production delays, if any, could result in our failure to effectively manage our manufacturing costs relating to these program launches. In addition, our customers may delay the launch or fail to successfully execute the launch of these new product programs, or any additional future product program for which we will supply products. Our revenues, operating results and financial condition could be adversely impacted if our customers fail to timely launch such programs or if we are unable to manage the timing requirements and costs of new product program launches.

***Our company may not realize all of the revenue expected from our new and incremental business backlog.***

The realization of incremental revenues from awarded business is inherently subject to a number of risks and uncertainties, including the accuracy of customer estimates relating to the number of vehicles to be produced in new and existing product programs and the timing of such production, as well as the fluctuation in exchange rates for programs sourced in currencies other than our reporting currency. Further, as the percentage of our backlog associated with electric vehicle programs increases, these risks could be exacerbated due to uncertainty related to electric vehicles, including end-user acceptance rates and the availability of critical electric vehicle infrastructure. It is also possible that our customers may delay or cancel a product program that has been awarded to us. Our revenues, operating results and financial condition could be adversely affected relative to our current financial plans if we do not realize substantially all the revenue from our new and incremental business backlog.

***We may incur material losses and costs as a result of product recall or field action, product liability and warranty claims, litigation and other disputes and claims.***

We are exposed to warranty, product recall or field action and product liability claims in the event that our products fail to perform as expected, and we may be required to participate in a recall of such products. We are not responsible for certain warranty claims that may be incurred by our customers, which include returned components for which no defect was found upon inspection, discretionary acts of dealer goodwill, defects related to certain directed buy components, and build-to-print design issues. We review warranty claim activity in detail, and we may have disagreements with our customers as to responsibility for these types of costs incurred by our customers. In addition, as we continue to diversify our customer base, we expect our obligation to share in the cost of providing warranties as part of our agreements with new customers will increase. Costs and expenses associated with warranties, field actions, product recalls and product liability claims could have a material adverse impact on our results of operations and financial condition and may differ materially from the estimated liabilities that we have recorded in our consolidated financial statements.

In addition to warranty claims relating directly to products we produce, potential product recalls for our customers and their other suppliers, and the potential reputational harm that may result from such product recalls, could have a material adverse impact on our results of operations and financial condition.

We are also involved in various legal proceedings incidental to our business. Although we believe that none of these matters are likely to have a material adverse effect on our results of operations or financial condition, there can be no assurance as to the ultimate outcome of any such legal proceeding or any future legal proceedings.

***Our business could be adversely affected if we, our customers, or our suppliers fail to maintain satisfactory labor relations.***

A significant portion of our hourly associates worldwide, as well as the workforces of our customers and suppliers, are members of industrial trade unions employed under the terms of collective bargaining agreements. There can be no assurance that future negotiations with labor unions, including those related to the collective bargaining agreements between our largest customers and the labor unions representing certain of their employees that expire in 2023, will be resolved favorably or that we, our customers or suppliers will not experience a work stoppage or disruption that could have a material adverse impact on our results of operations and financial condition. In addition, there can be no assurance that such future negotiations will not result in labor cost increases or other terms and conditions that could adversely affect our results of operations and financial condition or our ability to compete for future business.

***We use important intellectual property in our business. If we are unable to protect our intellectual property, or if a third party makes assertions against us or our customers relating to intellectual property rights, our business could be adversely affected.***

We own important intellectual property, including patents, trademarks, copyrights and trade secrets. Our intellectual property plays an important role in maintaining our competitive position in a number of the markets that we serve. Our competitors may develop technologies that are similar to our proprietary technologies or design around the patents we own or license. Further, as we expand our operations in jurisdictions where the protection of intellectual property rights is less robust, the risk of others duplicating our proprietary technologies increases, despite efforts we undertake to protect them. Developments or assertions by or against us relating to intellectual property rights, and any inability to protect these rights, could materially adversely affect our business and our competitive position.

***Our company's ability to operate effectively could be impaired if we cannot attract and retain qualified personnel in key positions and functions.***

Our success depends, in part, on the efforts of our executive officers and other key associates, such as engineers and global operational leadership. In addition, our future success will depend on, among other factors, our ability to continue to attract and retain qualified personnel, particularly engineers and other associates with critical expertise and skills that support key customers and products, including those supporting the expansion of our product portfolio into electrification. The loss of the services of our executive officers or other key associates, unexpected turnover, or the inability to attract or retain associates, could have a material adverse effect on our results of operations and financial condition.

***Our goodwill, other intangible assets, and long-lived assets are at risk of impairment if our business or market conditions indicate that the carrying value of those assets exceeds their fair value.***

Accounting principles generally accepted in the United States of America (GAAP) require that companies evaluate the carrying value of goodwill, other intangible assets, and long-lived assets routinely in order to assess whether any indication of asset impairment exists. Goodwill is required to be evaluated on an annual basis, while finite-lived intangible assets and long-lived assets should be evaluated only when events and circumstances exist that indicate an asset or group of assets may be impaired.

We conduct our annual goodwill impairment test in the fourth quarter using a third-party valuation specialist to assist management in determining the fair value of our reporting units. Fair value of each reporting unit is estimated based on a combination of discounted cash flows and the use of pricing multiples derived from an analysis of comparable public companies multiplied against historical and/or anticipated financial metrics of each reporting unit. These calculations contain uncertainties as they require management to make assumptions including, but not limited to, market comparables, future cash flows of the reporting units, and appropriate discount and long-term growth rates. A decline in the actual cash flows of our reporting units in future periods, as compared to the projected cash flows used in our valuations, could result in the carrying value of the reporting units exceeding their respective fair values. Further, a change in market comparables, discount rate or long-term growth rate, as a result of a change in economic conditions or otherwise, could result in the carrying values of the reporting units exceeding their respective fair values.

**Risks Related to Our Industry**

***We are under continuing pressure from our customers to reduce our prices.***

Annual price reductions are a common practice in the automotive industry. Many of our contracts require us to reduce our prices in subsequent years and most of our contracts allow us to adjust prices for engineering changes requested by our customers. If we accommodate a customer's demand for higher annual price reductions and are unable to offset the impact of any such price reductions through continued technology improvements, cost reductions or other productivity initiatives, our results of operations and financial condition could be adversely affected.

***Our business faces substantial competition.***

The markets in which we compete are highly competitive. Our competitors include the in-house operations of many vertically integrated OEMs, as well as many other domestic and foreign companies possessing the capability to produce some or all of the products we supply. In addition to traditional competitors in the automotive sector, the trend towards advanced electronic integration and electrification has increased the level of new market entrants, including technology companies. Some of our competitors are affiliated with OEMs and others could have economic advantages as compared to our business, such as scale of operations, patents, existing underutilized capacity and lower wage and benefit costs. Technology, design, quality, delivery and cost are the primary elements of competition in our markets. As a result of these competitive pressures and other industry trends, OEMs and suppliers are developing strategies to reduce costs. These strategies include supply base consolidation, as well as in-sourcing, vertical integration and global sourcing by OEMs. Further, some traditional automotive industry participants are developing strategic partnerships with technology companies as each party seeks to leverage the existing customer relationships and technical knowledge of the partner, and expedite the development and commercialization of new technology. Our business may be adversely affected by increased competition from suppliers benefiting from OEM affiliate relationships or financial and other resources that we do not possess. Our business may also be adversely affected if we do not sustain our ability to meet customer requirements relative to technology, design, quality, delivery and cost.

***If we are unable to respond timely to changes in technology and market innovation, we risk not being able to develop our intellectual property into commercially viable products.***

Our results of operations and financial condition are impacted, in part, by our competitive advantage in developing, engineering, and manufacturing innovative products. Our ability to anticipate changes in technology, successfully develop, engineer, and bring to market new and innovative proprietary products, or successfully respond to evolving business models, including hybrid and electric vehicle advances, may have a significant impact on our market competitiveness. If we are unable to maintain our competitive advantage through innovation, or if we do not sustain our ability to meet customer requirements relative to technology, there could be a material adverse effect on our results of operations and financial condition.

***Our business is dependent on certain global automotive market segments.***

A substantial portion of our revenue is derived from products supporting RWD light truck and SUV platforms and AWD crossover vehicle platforms in North America, Europe and Asia. Sales and production levels of these vehicle platforms can be affected by many factors, including changes in consumer demand and preference; adverse economic conditions, such as recession or recessionary concerns; product mix shifts favoring other types of light vehicles, such as front-wheel drive based crossover vehicles and passenger cars; fuel prices; vehicle electrification; and government regulations. Reduced demand in the market segments we currently supply could have a material adverse impact on our results of operations and financial condition, or our ability to invest in the necessary research and development activities to grow our electrification business.

***Our business could be adversely affected by the cyclical nature of the automotive industry.***

Our operations are cyclical because they are directly related to worldwide automotive production, which is itself cyclical and dependent on general economic conditions and other factors, such as credit availability, interest rates, fuel prices, consumer preference and confidence, and the ability of end-users to secure affordable financing. Our business may be adversely affected by an economic decline or fiscal crisis, including prolonged recessionary periods, that result in a reduction of automotive production and sales by our customers.

**Risks Related to Liquidity, Indebtedness and the Capital Markets**

***We have incurred substantial indebtedness and our financial condition and operations may be adversely affected by a violation of financial and other covenants.***

We have incurred substantial indebtedness and related debt service obligations, which could have important consequences, including:

- reduced flexibility in planning for, or reacting to, changes in our business, the competitive environment and the markets in which we operate, and to technological and other changes;
- reduced access to capital and increasing borrowing costs generally or for any additional indebtedness to finance future operating and capital expenditures and for general corporate purposes;
- lowered credit ratings;
- reduced funds available for operations, capital expenditures and other activities; and
- competitive disadvantages relative to other companies with lower debt levels.

Our Senior Secured Credit Facilities, comprised of our Revolving Credit Facility, as well as our Term Loan A Facility and Term Loan B Facility, and our senior unsecured notes, contain customary affirmative and negative covenants. Some, or with respect to certain covenants, all of these agreements include financial covenants based on leverage and cash interest expense coverage ratios and limitations on Holdings, AAM Inc., and their restricted subsidiaries to make certain investments, declare or pay dividends or distributions on capital stock, redeem or repurchase capital stock and certain debt obligations, incur liens, incur indebtedness, or merge, make certain acquisitions or sales of assets.

The Senior Secured Credit Facilities and the indentures governing our senior unsecured notes also include customary events of default. Obligations under the Senior Secured Credit Facilities and our senior unsecured notes are required to be guaranteed by most of our U.S. subsidiaries that hold domestic assets. In addition, the Senior Secured Credit Facilities are secured on a first priority basis by all or substantially all of the assets of AAM Inc., the assets of Holdings and each guarantor's assets, including a pledge of capital stock of our U.S. subsidiaries that hold domestic assets, including each guarantor, and a portion of the capital stock of the first tier foreign subsidiaries of AAM Inc. and MPG.

A violation of any of these covenants or agreements could result in a default under these contracts, which could permit the lenders or note holders, as applicable, to accelerate repayment of any borrowings or notes outstanding at that time and levy on the collateral granted in connection with the Senior Secured Credit Facilities. A default or acceleration under the Senior Secured Credit Facilities or the indentures governing the senior unsecured notes may result in defaults under our other debt agreements and may adversely affect our ability to operate our business, our subsidiaries' and guarantors' ability to operate their respective businesses and our results of operations and financial condition.

The available capacity under our Revolving Credit Facility could be limited by our covenant ratios under certain conditions. An increase in the applicable leverage ratio, as a result of decreased earnings or otherwise, could result in reduced access to capital under our Revolving Credit Facility, which is a significant component of our total available liquidity.

***Our business could be adversely affected by fluctuations in the global capital markets.***

Our business and financial results are affected by fluctuations in the global financial markets, including interest rates and currency exchange rates. Failure to respond timely to these fluctuations, or failure to effectively hedge these risks when possible, could lead to a material adverse impact on our results of operations and financial condition. Future business operations and opportunities, including the expansion of our business outside North America, may further increase the risk that cash flows resulting from these global operations may be adversely affected by changes in interest rates or currency exchange rates.

***Our company faces substantial pension and other postretirement benefit obligations.***

We have significant pension and other postretirement benefit obligations to certain of our associates and retirees. Our ability to satisfy the funding requirements associated with these obligations will depend on our cash flow from operations and our ability to access credit and the capital markets. The funding requirements of these benefit plans, and the related expense reflected in our financial statements, are affected by several factors that are subject to an inherent degree of uncertainty and volatility, including governmental regulation. Key assumptions used to value these benefit obligations and the cost of providing such benefits, funding requirements and expense recognition include the discount rate, the expected long-term rate of return on pension assets, mortality rates and the health care cost trend rate. If the actual trends in these factors are less favorable than our assumptions, this could have an adverse effect on our results of operations and financial condition.

**Risks Related to Our International Operations**

***Our company's global operations are subject to risks and uncertainties, including tariffs and trade relations.***

As U.S. companies continue to expand globally, increased complexity exists due to recent changes to corporate tax codes, potential revisions to international tax law treaties and renegotiated trade agreements, including the United States-Mexico-Canada trade agreement. These uncertainties, as well as the potential impacts of these agreements, could have a material adverse effect on our business and our results of operations and financial condition. As we continue to expand our business globally, our success will depend, in part, on our ability to anticipate and effectively manage these and other risks.

We have business and technical offices and manufacturing facilities in multiple countries outside the U.S. International operations are subject to certain risks inherent in conducting business outside the U.S., such as changes in currency exchange rates, tax laws, price and currency exchange controls, tariffs or import restrictions, nationalization, immigration policies, expropriation and other governmental action. Our global operations also may be adversely affected by political events, violations of anti-bribery or corruption laws, government sanctions, domestic or international terrorist events and hostilities, natural disasters and significant weather events, disruptions in the global financial markets, or public health crises, such as pandemic or epidemic illness.

***Our business could be adversely impacted by global climate change or an inability to meet the expectations of our stakeholders related to environmental, social and governance (ESG) objectives.***

Natural disasters or extreme weather conditions that occur as a result of global climate change could lead us, our customers or suppliers to experience significant disruptions in operations or availability of key components, which could lead to a material adverse impact on our results of operations and financial condition.

Further, various stakeholders, including customers, suppliers, providers of debt and equity capital, regulators and those in the workforce, are increasing their expectations of companies to do their part to combat global climate change and its impact, and to conduct their operations in an environmentally sustainable and socially responsible manner with appropriate oversight by senior leadership. We have made public commitments to reduce emissions, conserve resources at our various facilities and further develop a diverse, equitable and inclusive culture. A failure to respond to the expectations and initiatives of our stakeholders or achieve the commitments we have made, could result in damage to our reputation and relationships with various stakeholders, as well as adverse impacts to our financial condition due to volatility in the cost or availability of capital, difficultly obtaining new business or entering into new supplier relationships, a possible loss of market share on our current product portfolio, or difficulty attracting and retaining a skilled workforce.

***Exchange rate fluctuations could adversely affect our company's global results of operations and financial condition.***

As a result of our international operations, we are exposed to foreign currency risks that arise from our normal business operations, including risks associated with transactions that are denominated in currencies other than our local functional currencies. Gains and losses resulting from the remeasurement of assets and liabilities in a currency other than the functional currency of our foreign subsidiaries are reported in current period income. In the future, unfavorable changes in exchange rate relationships between the functional currencies of our subsidiaries and their non-functional currency denominated assets and liabilities could have an adverse impact on our results of operations and financial condition. While we use, from time to time, foreign currency derivative contracts to help mitigate certain of these risks and reduce the effects of fluctuations in exchange rates, our efforts to manage these risks may not be successful.

We are also subject to currency translation risk as we are required to translate the financial statements of our foreign subsidiaries to U.S. dollars. We report the effect of translation for our foreign subsidiaries with a functional currency other than the U.S. dollar as a separate component of stockholders' equity. Unfavorable changes in the exchange rate relationship between the U.S. dollar and the functional currencies of our foreign subsidiaries could have an adverse impact on our results of operations and financial condition.

**Risks Related to Regulations and Taxes**

***Negative or unexpected tax consequences, as well as possible changes in foreign and domestic tax laws could adversely affect our results of operations and financial condition.***

There have been recent global proposals brought forward by the Organisation for Economic Co-operation and Development (OECD) alongside the Group of Twenty (G-20), for tax jurisdictions to evaluate the potential reform of longstanding corporate tax law principles and treaties that could adversely affect multi-national companies. As an example, in October 2021, the OECD announced the OECD/G20 Inclusive Framework on Base Erosion and Profit Shifting (the Framework) which agreed to a two-pillar solution to address tax challenges arising from digitalization of the global economy. Under pillar two, the Framework provides for a global minimum corporate tax rate of 15% for companies with revenue above €750 million, calculated on a country-by-country basis. The Framework agreement must now be implemented by the OECD members who have agreed to the plan, effective in 2024. Some further guidance on the plan and the related rules has been published, with additional guidance expected to be published in 2023. We will continue to monitor the implementation of the Framework by the countries in which we operate. Although the OECD does not enact tax law, proposals like this or others may lead to substantial changes in enacted tax laws and treaties in the various countries in which we do business and could have a material adverse impact on our results of operations and financial condition.

In addition, there have been changes to tax laws in the U.S., including the introduction of provisions such as the Global Intangible Low-Taxed Income (GILTI) and Foreign Derived Intangible Income (FDII) provisions, that have increased the complexity of U.S. tax laws and have also increased volatility in our income tax expense and applicable tax rates. Further, GILTI and FDII may not be compliant with the OECD guidelines as drafted and it is uncertain whether the U.S. will amend these existing rules. Changes to these and other areas of domestic or international tax reform, including future actions taken by governmental authorities, could increase uncertainty and may adversely affect our tax rate, results of operations and cash flows in future years.

We file income tax returns in the U.S. federal jurisdiction, as well as various states and foreign jurisdictions. We are also subject to examinations of these income tax returns by the relevant tax authorities. Any negative or unexpected outcomes of these examinations and audits, or any resulting litigation, could have a material adverse impact on our results of operations and financial condition.

***Our business is subject to costs associated with environmental, health and safety regulations.***

Our operations are subject to various federal, state, local and foreign laws and regulations governing, among other things, emissions to air, discharge to waters and the generation, handling, storage, transportation, treatment and disposal of waste and other materials. We believe that our current and former operations and facilities have been, and are being, operated in compliance, in all material respects, with such laws and regulations, many of which provide for substantial fines and criminal sanctions for violations. The operation of our manufacturing facilities entails risks in these areas, however, and there can be no assurance that we will not incur material costs or liabilities. In addition, potentially significant expenditures could be required in order to comply with evolving environmental, health and safety laws, regulations or other pertinent requirements that may be adopted or imposed in the future by governmental authorities.

**Risks Related to Our Strategy**

***Our restructuring initiatives may not achieve their intended outcomes.***

We have initiated restructuring actions in recent years to reduce cost and realign certain areas of our business and could initiate further restructuring actions in future periods. There can be no assurance that such restructuring initiatives will successfully achieve the intended outcomes, or that the charges related to such initiatives will not have a material adverse effect on our results of operations and financial condition.

As part of our strategic initiatives, we are actively assessing our product portfolio. As a result, we have divested certain operations and may pursue additional plans to divest certain operations in future periods. Our results of operations or financial condition could be adversely affected if we initiate a divestiture and it is not completed in accordance with our expected timeline, or at all, or if we do not realize the expected benefits of the divestiture.

***We may be unable to consummate and successfully integrate acquisitions and joint ventures.***

Engaging in acquisitions and joint ventures involves potential risks, including financial risks, risks related to integrating enterprise resource planning systems, and failure to successfully integrate and fully realize the expected benefits of such acquisitions and joint ventures. Integrating acquired operations is a significant challenge and there is no assurance that we will be able to manage integrations successfully. As we continue to expand globally and accelerate our diversification efforts, we may pursue strategic growth initiatives, including through acquisitions and joint ventures. An inability to successfully achieve the levels of organic and inorganic growth from our strategic initiatives could adversely impact our results of operations and financial condition.

**Item 1B. Unresolved Staff Comments**

None.

## Item 2. Properties

The table below summarizes our global manufacturing locations and administrative, engineering or technical locations:

| | Manufacturing | | | Corporate, Business Offices, Engineering and Technical Centers |
|---|---|---|---|---|
| **Country** | ***Driveline*** | | ***Metal Forming*** | |
| Brazil | 1 | | 4 | — |
| China | 4 | | 1 | 2 |
| Czech Republic | — | | 3 | — |
| England | 1 | | — | — |
| France | 2 | | — | — |
| Germany | 1 | | 6 | 1 |
| India | 3 | | — | 2 |
| Japan | — | | — | 1 |
| Luxembourg | — | | — | 1 |
| Mexico | 8 | *(a)* | 5 | — |
| Poland | 1 | | — | — |
| Romania | — | | 1 | — |
| Scotland | 1 | | — | — |
| South Korea | 1 | | — | — |
| Spain | 1 | | 1 | — |
| Sweden | — | | — | 1 |
| Thailand | 1 | | — | — |
| United States of America | 3 | | 23 | 5 |
| **Total** | ***28*** | | ***44*** | ***13*** |

*(a) The eight Driveline locations in Mexico include our Guanajuato Manufacturing Complex, which is comprised of six plants.*

We believe that our property and equipment is properly maintained and in good operating condition. We will continue to evaluate capacity requirements in light of current and projected market conditions. We also intend to continue redeploying assets in order to increase our capacity utilization and reduce future capital expenditures to support program launches.

## Item 3. Legal Proceedings

See Note 11 - Commitments and Contingencies in Item 8, "Financial Statements and Supplementary Data" for discussion of legal proceedings and the effect on AAM.

## Item 4. Mine Safety Disclosures

Not applicable.

## Part II

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

*Market Information*

Our common stock, par value $0.01 per share, is listed for trading on the New York Stock Exchange (NYSE) under the symbol “AXL.” We had approximately 162 stockholders of record as of February 14, 2023.

*Dividends*

We did not declare or pay any cash dividends on our common stock in 2022. Our Amended and Restated Credit Agreement associated with our Senior Secured Credit Facilities limits our ability to declare or pay dividends or distributions on capital stock.

*Securities Authorized for Issuance under Equity Compensation Plans*

The information regarding our securities authorized for issuance under equity compensation plans is incorporated by reference from our Proxy Statement.

### Item 6. [Reserved]

## Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A)

### COMPANY OVERVIEW

As a leading global tier 1 automotive and mobility supplier, AAM designs, engineers and manufactures Driveline and Metal Forming technologies to support electric, hybrid and internal combustion vehicles. Headquartered in Detroit with over 80 facilities in 18 countries, AAM is bringing the future faster for a safer and more sustainable tomorrow.

We are a primary supplier of driveline components to General Motors Company (GM) for its full-size rear-wheel drive (RWD) light trucks, sport utility vehicles (SUV), and crossover vehicles manufactured in North America, supplying a significant portion of GM's rear axle and four-wheel drive and all-wheel drive (4WD/AWD) axle requirements for these vehicle platforms. We also supply GM with various products from our Metal Forming segment. Sales to GM were approximately 40% of our consolidated net sales in 2022, 37% in 2021, and 39% in 2020.

We also supply driveline system products to Stellantis N.V. (Stellantis) for programs including the heavy-duty Ram full-size pickup trucks and its derivatives and the AWD Chrysler Pacifica. In addition, we sell various products to Stellantis from our Metal Forming segment. Sales to Stellantis were approximately 18% of our consolidated net sales in 2022, and 19% in both 2021 and 2020.

We are also a supplier to Ford Motor Company (Ford) for driveline system products on certain vehicle programs including the Bronco Sport, Maverick, Edge, Escape and Lincoln Nautilus, and we also sell various products to Ford from our Metal Forming segment. Sales to Ford were approximately 12% of our consolidated net sales in 2022, 2021 and 2020.

No other customer represented 10% or more of consolidated net sales during these periods.

#### Supply Chain Constraints Impacting the Automotive Industry

During 2022, the automotive industry has experienced, and continues to experience, significant disruptions in the supply chain, including a shortage of semiconductor chips used by our customers, increased metal and commodity costs, higher utility costs, increased transportation costs, higher labor costs and labor shortages. As a result, we have experienced increased volatility in our production schedules, including manufacturing downtime, often with little notice from customers, higher inventory levels and increased labor costs, which have negatively impacted our results of operations and cash flows during this period. We continue to work with customers and suppliers in our effort to protect continuity of supply as we expect these challenges to continue in 2023. Due to the ongoing uncertainty associated with the impact of the COVID-19 pandemic, the conflict between Russia and Ukraine and other factors causing, or exacerbating, these supply chain constraints, the ultimate impact on our net sales, results of operations and cash flows is unknown.

### INDUSTRY TRENDS

There are a number of significant trends affecting the markets in which we compete. Intense competition, volatility in the price of raw materials, including steel, aluminum, and other metallic materials, and resources used in vehicle electrification and electronic components, labor shortages and increased labor costs, fluctuations in exchange rates and interest rates and significant pricing pressures remain. At the same time, there is a focus on investing in future products that will incorporate the latest technology and meet changing customer demands as certain original equipment manufacturers (OEMs) place increased emphasis on the development of battery and hybrid electric vehicles. The ability to respond timely to the continued advancement of technology and product innovation, as well as the capability to source programs on a global basis, are critical to attracting and retaining business in our global markets.

**INCREASED INVESTMENT IN VEHICLE ELECTRIFICATION AND DEMAND FOR EMISSIONS REDUCTIONS** The electrification of vehicles continues to expand, driven by a shift in focus by certain OEMs toward battery and hybrid electric vehicles, government regulations related to emissions, such as the Corporate Average Fuel Economy standards, and consumer demand for greater vehicle performance, enhanced functionality, increased electronic content and vehicle connectivity, reduced environmental impact and affordable convenience options. As vehicle electrification and electronic components become an increasingly larger focus for OEMs and suppliers, the industry has seen, and will likely continue to see, competition to develop and market new and alternative technologies, including from new market entrants such as non-traditional automotive companies and technology companies. Further, some traditional automotive industry participants are developing strategic partnerships with technology companies as each party seeks to leverage the existing customer relationships and technical knowledge of the partner, and expedite the development and commercialization of this new technology. An area of focus will be the product development cycle and bridging the gap between the shorter development cycles of information technology (IT) software and controls and the longer development cycles of traditional powertrain components. OEMs and suppliers are developing new products, such as hybrid and electric vehicles and the associated vehicle components, and are improving existing products to reduce emissions through lightweighting and efficiency initiatives, such as higher speed transmissions, and downsized engines.

We are responding, in part, with ongoing research and development (R&D) activities to develop hybrid and electric driveline systems and related subsystems and components. In 2022, AAM's electric drive innovations were recognized by Automotive News with three PACE awards, which are among the industry's most prestigious awards regarding innovation. AAM's electric drive technology on the Mercedes-AMG GT 63 S E Performance was awarded a PACE award, as well as a PACE Innovation Partnership award for our high level of collaboration with Mercedes-AMG on the program. AAM's highly integrated three-in-one wheel-end electric drive unit was awarded a PACEpilot Innovation to Watch award, which recognizes post-pilot, pre-commercial innovation in the automotive and future mobility industry. Additionally, we have continued to enhance our product portfolio to allow us to meet our customers' needs for high performance vehicles with reduced emissions and reduced environmental impact through our acquisition of Tekfor Group (Tekfor) during 2022. Tekfor is a leading provider of driveline and powertrain components for both internal combustion (ICE) and hybrid vehicles, as well as e-mobility applications.

Through our e-drive systems, e-beam axle technology, lightweight axles, high-efficiency axles, all-wheel drive systems, high-strength connecting rod technology, refined vibration control systems and forged axle tubes, we have significantly advanced our efforts to improve ride and handling performance, while reducing emissions and mass. To date, our hybrid and electric driveline systems have been awarded multiple contracts and received multiple awards, and our efforts have positioned us to compete in the evolving global marketplace.

**INCREASED FOCUS ON ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) INITIATIVES AND REPORTING** There has been a growing focus on ESG initiatives and reporting, including those related to Diversity, Equity, and Inclusion (DEI), by industry stakeholders, including customers, suppliers, providers of debt and equity capital, regulators and those in the workforce. These topics are increasingly driving decisions made by our stakeholders. Particularly within the automotive industry, trends toward electrification and reduced emissions have increased focus on the environmental impact of OEMs and suppliers. The ability of OEMs and suppliers to continually communicate and meet expectations on ESG programs and initiatives will impact their competitive advantage to attract and retain business, as well as a skilled workforce.

We have responded to this trend by implementing and launching programs and initiatives addressing each topic under ESG, such as $E^4$ (E-to-the-fourth), AAM’s energy and environmental sustainability program to drive continuous improvement in our operations by reducing energy consumption, greenhouse gas (GHG) emissions and water use while minimizing waste and lessening the environmental impact of our production operations. Also, as part of our continued focus on reducing GHG emissions, during 2022 we committed to reaching net-zero carbon emissions by 2040, and achieved the validation of our net-zero emissions targets by the climate-action organization Science Based Targets Initiative (SBTi). The SBTi is a partnership between CDP (formerly known as the Climate Disclosure Project), the United Nations Global Compact, World Resources Institute (WRI) and the World Wide Fund for Nature (WWF) that drives ambitious climate action in the private sector by enabling companies to set greenhouse gas emissions reduction targets that are in line with what the latest climate science deems necessary to meet the goals of the Paris Agreement.

AAM's commitment to DEI begins with our Board of Directors (Board). The Board's active oversight reflects the importance of our DEI journey to our business and demonstrates the power of accountability to this critical initiative. With oversight from our Board and direction from senior leadership, our DEI Steering Committee (DEI Committee) helps to ensure that our initiatives are guided by the experiences and recommendations of our associates. Comprised of talented and diverse associates, the DEI Committee helps develop new company initiatives designed to advance a respectful and inclusive company culture and to reinforce the importance of inclusion at AAM. Refer to Item 1. Business - *Human Capital Management,* for specific DEI highlights.

An in-depth review of non-financial metrics and strategies related to our ESG initiatives and programs is included in our annual Sustainability Report, which includes more details on our sustainability programs, initiatives and future objectives. This report and other ESG areas of focus, such as AAM's leadership, are made available to stakeholders through our company website. While evolving expectations and reporting standards are driving increased ESG reporting, this trend aligns with our cultural values and commitment to profitably grow our business in a way that is sustainable and socially responsible.

**SHIFT IN CONSUMER PREFERENCE AND OEM PRODUCTION TO LIGHT TRUCK, CROSS-OVER VEHICLES (CUVs) AND SPORT-UTILITY VEHICLES (SUVs)** There has been a trend toward increased demand for light trucks, CUVs and SUVs in certain markets, while demand for passenger cars has decreased. This increase in demand for light trucks, CUVs and SUVs has been driven by changes in consumer preference as technology advancements have made these vehicles lighter and more efficient. Certain OEMs are responding to this change in consumer preference by shifting their focus to developing and manufacturing these types of vehicles, resulting in a significant reduction of passenger car vehicle programs, especially in North America. We have benefited from this trend as a significant portion of our business supports light truck, CUV and SUV programs in North America.

**GLOBAL AUTOMOTIVE PRODUCTION AND INDUSTRY CONSOLIDATION** Our customers continue to design their products to meet demand in global markets and therefore require global support from their suppliers. For this reason, it is critical that suppliers maintain a global presence in these markets in order to compete for new contracts. We have business and engineering offices around the world to support our global locations and provide technical solutions to our customers on a regional basis, including in North America, which represents the largest portion of our core business, as well as in China and Europe where consumer acceptance of electric vehicles has been stronger.

During 2022, the automotive industry experienced, and continues to experience, significant disruptions in the supply chain, including a shortage of semiconductor chips used by our customers, increased metal and commodity costs, higher utility costs, increased transportation costs, higher labor costs and labor shortages. We continue to work with customers and suppliers in our effort to protect continuity of supply as we expect these challenges to continue in 2023.

The cyclical nature of the automotive industry, volatile commodity prices, the shifting demands of consumer preference, regulatory requirements and trade agreements require OEMs and suppliers to remain agile with regard to product development and global capability. A critical objective for OEMs and suppliers is the ability to meet these global demands while effectively managing costs. Some OEMs and suppliers may be preparing for these challenges through merger and acquisition (M&A) activity, development of strategic partnerships and reduction of vehicle platform complexity. In order to effectively drive technology development, recognize cost synergies, and increase global footprint, the industry may continue to see consolidation in the supply base as companies recognize and respond to the need for scalability.

In addition to AAM's technology development relationships and organic growth in technology and processes, our joint venture partnerships and strategic acquisitions, including the Tekfor acquisition during 2022, have provided us with complementary technologies, expanded our product portfolio, diversified our global customer base, and strengthened our long-term financial profile through greater scale. The synergies achieved, or expected to be achieved through our strategic initiatives, enhance AAM's ability to compete in today's technological and regulatory environment, while remaining cost competitive through increased scale and integration.

**EVOLUTION OF THE AUTOMOTIVE INDUSTRY AS DEMAND FOR AUTONOMOUS VEHICLES AND RIDE-SHARING INCREASES** A developing trend is the expectation that autonomous, self-driving cars are expected to become more common with continued advancements in technology, including applications such as last mile delivery. Autonomous vehicles present many possible benefits, such as a reduction in traffic collisions caused by human error and reduced traffic congestion, but there are also foreseeable challenges such as liability for damage and software safety and reliability. The increased integration of electronics and vehicle connectivity that will likely be required in autonomous vehicle developments will provide an opportunity for suppliers with advanced capabilities in this area to be competitive in this expanding market.

With population growth, increased government regulations to ease congestion and generational shifts in preferences, it is expected that the markets for ride-sharing services will continue to grow, which could cause a change in the type of vehicles utilized. However, the growth in this area has been curtailed by the impact of COVID-19, as social distancing recommendations have led to reduced utilization of ride-sharing services by consumers.

**VOLUMES AND OUTLOOK**

Our results of operations, financial condition and cash flows are significantly impacted by fluctuations in production volumes on the vehicle programs that we support. The following table represents historical and forecasted light vehicle production volumes in North America as our business is most significantly impacted by production volume fluctuations in this region. As our business is dependent on certain automotive segments, primarily the light truck, SUV and CUV segments, production volume fluctuations for the light vehicle market as a whole may not necessarily be indicative of the vehicle programs that we support.

| | ***(units in millions, except percentages)*** | | | | |
|---|---|---|---|---|---|
| | **2023 Outlook** | **% change** | **2022** | **% change** | **2021** |
| North America | 15.1 | 5.6 % | 14.3 | 10.0 % | 13.0 |

Source: IHS Markit January 2023

Production volumes in North America increased in 2022 as compared to 2021, as the impact of the semiconductor shortage and other supply chain constraints lessened in 2022 as compared to 2021.

We expect production volumes in North America to be in the range of 14.5 million to 15.1 million units in 2023, and we expect volumes in all other geographic regions in which we operate to increase in 2023, as compared to 2022. These expected increases are primarily the result of projected improvements in the supply chain as the disruptions that adversely impacted production volumes continue to diminish, including the impact of the semiconductor chip shortage on our customers.

The discussion of our Results of Operations, Reportable Segments, and Liquidity and Capital Resources for 2021, as compared to 2020, can be found within "Part II - Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" in our 2021 Annual Report on Form 10-K filed with the Securities and Exchange Commission (SEC) on February 11, 2022, which discussion is incorporated herein by reference.

**RESULTS OF OPERATIONS**

**NET SALES**

| | Year Ended December 31, | | | |
|---|---|---|---|---|
| (in millions) | 2022 | 2021 | Change | Percent Change |
| Net sales | **$ 5,802.4** | $ 5,156.6 | $ 645.8 | 12.5 % |

The increase in sales in 2022, as compared to 2021, reflects approximately $204 million as a result of our acquisition of Tekfor in the second quarter of 2022. In addition, we estimate that sales in 2022 and 2021 were impacted by the semiconductor shortage and other supply chain constraints affecting the automotive industry by approximately $418 million and $607 million, respectively, resulting in an increase in sales of approximately $189 million for the year ended December 31, 2022. Sales in 2022 were also positively impacted, as compared to 2021, by an increase in production volumes on certain light truck and CUV programs that we support in North America.

**COST OF GOODS SOLD**

| | Year Ended December 31, | | | |
|---|---|---|---|---|
| (in millions) | 2022 | 2021 | Change | Percent Change |
| Cost of goods sold | **$ 5,097.5** | $ 4,433.9 | $ 663.6 | 15.0 % |

The change in cost of goods sold reflects an increase of approximately $146 million as the impact on production volumes of the semiconductor shortage and other supply chain constraints affecting the automotive industry lessened in the year ended December 31, 2022, as compared to the year ended December 31, 2021, and cost of goods sold increased by approximately $202 million as a result of our acquisition of Tekfor in the second quarter of 2022. Cost of goods sold was also impacted by increased production volumes on certain light truck and CUV programs that we support in North America, as well as a net increase in manufacturing costs, including metal and commodity costs, and costs for labor, utilities and transportation.

In 2021, one of our Major Customers announced its intention to cease production operations in Brazil in 2021 as part of their restructuring actions. This decision impacted certain of the programs that we support and, as a result, we accelerated depreciation on certain property, plant and equipment beginning in the first quarter of 2021. The impact on cost of goods sold of this acceleration was approximately $32 million in the year ended December 31, 2021.

Materials costs as a percentage of total cost of goods sold were approximately 60% in both 2022 and 2021.

**GROSS PROFIT**

| | Year Ended December 31, | | | |
|---|---|---|---|---|
| (in millions) | 2022 | 2021 | Change | Percent Change |
| Gross profit | **$ 704.9** | $ 722.7 | $ (17.8) | (2.5)% |

Gross margin was 12.1% in 2022 as compared to 14.0% in 2021. Gross profit and gross margin were impacted by the factors discussed in Net sales and Cost of goods sold above.

**SELLING, GENERAL AND ADMINISTRATIVE EXPENSES (SG&A)**

| | Year Ended December 31, | | | |
|---|---|---|---|---|
| (in millions) | 2022 | 2021 | Change | Percent Change |
| Selling, general and administrative expenses | **$ 345.1** | $ 344.2 | $ 0.9 | 0.3 % |

SG&A as a percentage of net sales was 5.9% in 2022 as compared to 6.7% in 2021. R&D spending was $144.0 million in 2022 as compared to $116.8 million in 2021, which includes customer engineering, design and development (ED&D) recoveries of approximately $15 million in 2021. The change in SG&A expense in 2022, as compared to 2021, was primarily attributable to increased R&D expense, partially offset by lower compensation-related expense.

**AMORTIZATION OF INTANGIBLE ASSETS** Amortization expense for the year ended December 31, 2022 was $85.7 million as compared to $85.8 million for the year ended December 31, 2021.

**RESTRUCTURING AND ACQUISITION-RELATED COSTS** Restructuring and acquisition-related costs were $30.2 million in 2022 and $49.4 million in 2021. As part of our restructuring actions, we incurred severance charges of approximately $3.5 million, as well as implementation costs, consisting primarily of plant exit costs and professional fees, of approximately $18.2 million during 2022. In 2021, we incurred severance charges of approximately $2.9 million, as well as implementation costs, consisting primarily of plant exit costs and professional fees, of approximately $40.3 million. We expect to incur approximately $10 million to $20 million of total restructuring costs in 2023.

Acquisition-related costs and integration charges of $8.5 million were incurred in 2022 as we completed our acquisition of Tekfor and furthered the integration of other acquisitions completed in prior periods. This compares to $6.2 million of acquisition-related costs and integration charges incurred in 2021 as we completed our acquisition of a manufacturing facility in Emporium, Pennsylvania and furthered the integration of global enterprise planning (ERP) systems at legacy MPG locations. Acquisition-related costs primarily consist of advisory, legal, accounting, valuation and certain other professional or consulting fees incurred, and integration expenses primarily reflect costs for information technology infrastructure and enterprise resource planning systems, and consulting fees incurred in conjunction with integration activities. We expect to incur up to $10 million of integration costs in 2023 associated with our 2022 acquisition of Tekfor. See Note 2 - Restructuring and Acquisition-Related Costs for further detail.

**LOSS ON SALE OF BUSINESS** In 2021, we completed the sale of our ownership interest in a consolidated joint venture. As a result of the sale and deconsolidation of this joint venture, we recognized a loss of $2.7 million. This loss is presented in the Loss on sale of business line item of our Consolidated Statement of Operations for the year ended December 31, 2021. See Note 16 - Acquisitions and Dispositions for further detail.

**OPERATING INCOME** Operating income was $243.9 million in 2022 as compared to $240.6 million in 2021. Operating margin was 4.2% in 2022 as compared to 4.7% in 2021. The changes in operating income and operating margin in 2022, as compared to 2021, were due to the factors discussed in Net sales, Cost of goods sold, SG&A and Restructuring and acquisition-related costs above.

**INTEREST EXPENSE** Interest expense was $174.5 million in 2022 and $195.2 million in 2021. The decrease in interest expense in 2022, as compared to 2021, was primarily the result of our ongoing debt reduction initiatives and the impact of our previous debt refinancing actions. The weighted-average interest rate of our total debt outstanding was 5.7% in 2022 and 5.8% in 2021. We expect our interest expense in 2023 to be approximately $195 million to $205 million.

**INTEREST INCOME** Interest income was $17.0 million in 2022 and $10.9 million in 2021. Interest income primarily includes interest earned on cash and cash equivalents, realized and unrealized gains and losses on our short-term investments during the period, and the deferred payment obligation associated with the sale of our former Casting segment, as well as the impact of the interest rate differential on our fixed-to-fixed cross-currency swap.

**OTHER INCOME (EXPENSE)** Following are the components of Other Income (Expense) for 2022 and 2021:

**Debt refinancing and redemption costs** In March 2022, we entered into the Amended and Restated Credit Agreement (Amended and Restated Credit Agreement), which, among other things, increased the principal amount of the Term Loan A Facility (Term Loan A Facility) to $520.0 million, extended the maturity date of the Term Loan A Facility and the Revolving Credit Facility (Revolving Credit Facility) and established the use of updated reference rates. As a result, we expensed $0.2 million of debt refinancing costs related to the Amended and Restated Credit Agreement in 2022. See Note 4 - Long-Term Debt for further detail on the Amended and Restated Credit Agreement.

In December 2022, we entered into the Refinancing Facility Agreement No.1 (Refinancing Facility Agreement), under the Amended and Restated Credit Agreement and established a new Term Loan B Facility of $675.0 million. Additionally, the Refinancing Facility Agreement, among other things, extended the maturity date of the Term Loan B Facility and established the use of updated reference rates. As a result, we expensed $0.4 million of debt refinancing costs related to the Refinancing Facility Agreement. See Note 4 - Long-Term Debt for further detail on the Refinancing Facility Agreement.

In 2022, prior to entering into the Refinancing Facility Agreement, we made voluntary prepayments totaling $100.0 million on our then outstanding term loan B facility. As a result, we expensed approximately $0.6 million for the write-off of a portion of the unamortized debt issuance costs that we had been amortizing over the expected life of this borrowing.

Also in 2022, we used the proceeds from our upsized Term Loan A Facility to voluntarily redeem a portion of our 6.25% Notes due 2026. This resulted in a principal payment of $220.0 million and $0.2 million in accrued interest. We also expensed approximately $1.8 million for the write-off of a portion of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing, and approximately $3.4 million for the payment of an early redemption premium.

In 2021, we made voluntary prepayments totaling $21.2 million on our Term Loan A Facility and $238.8 million on our Term Loan B Facility. As a result, we expensed approximately $2.5 million for the write-off of a portion of the unamortized debt issuance costs that we had been amortizing over the expected life of these borrowings.

Also, in 2021, we voluntarily redeemed our 6.25% Notes due 2025. This resulted in principal payments totaling $700.0 million and $19.4 million in accrued interest. We also expensed approximately $9.6 million for the write-off of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing, and approximately $21.9 million for the payment of an early redemption premium.

**Gain on bargain purchase of business** On June 1, 2022, our acquisition of Tekfor became effective, which resulted in a gain on bargain purchase of $13.6 million. See Note 16 - Acquisitions and Dispositions for additional detail on this acquisition.

**Unrealized gain (loss) on equity securities** We have an investment in the equity securities of REE Automotive, an e-mobility company. These equity securities are measured at fair value each reporting period with changes in fair value reported as an unrealized holding gain or loss within Other income (expense), net in our Consolidated Statements of Operations. As of December 31, 2022, our investment in REE shares was valued at $1.9 million resulting in an unrealized loss of $25.5 million for the year ended December 31, 2022. This compares to an unrealized gain of $24.4 million associated with our investment in REE shares for the year ended December 31, 2021.

**Pension settlement charges** In the fourth quarter of 2021, we purchased group annuity contracts from an insurance company to settle our pension obligations for certain United States (U.S.) plan participants. This resulted in a non-cash pre-tax settlement charge of $42.3 million in the fourth quarter of 2021 related to the accelerated recognition of certain deferred losses.

**Other, net** Other, net, which includes the net effect of foreign exchange gains and losses, our proportionate share of earnings from equity in unconsolidated subsidiaries, and all components of net periodic pension and postretirement benefit costs other than service costs, was expense of $1.8 million in 2022, as compared to expense of $3.2 million in 2021.

**INCOME TAX EXPENSE (BENEFIT)** Income tax expense was $2.0 million in 2022, as compared to an income tax benefit of $4.7 million in 2021. Our effective income tax rate was 3.0% in 2022 as compared to (391.7)% in 2021. For the year ended December 31, 2022, we recognized a net income tax benefit of $7.5 million related to the release of a valuation allowance in a foreign jurisdiction. During the year ended December 31, 2021, we recognized a net income tax benefit of approximately $5.2 million related to our ability to carry back prior year losses to tax years with the higher 35% corporate income tax rate under provisions of the CARES Act.

Our effective income tax rate for the year ended December 31, 2022 varies from our effective income tax rate for the year ended December 31, 2021 primarily as a result of the $13.6 million gain on bargain purchase of business recognized in the year ended December 31, 2022, which was not subject to income tax, as well as the release of the foreign valuation allowance during the year ended December 31, 2022 noted above and as a result of the benefit from foreign derived intangible income deductions in the U.S. For the year ended December 31, 2022, our effective income tax rate varies from the U.S. federal statutory rate primarily due to the gain on bargain purchase of business, the discrete items noted above and the benefit from foreign derived intangible income deductions in the U.S. For the year ended December 31, 2021, our effective income tax rate varied from the U.S. federal statutory rate primarily as a result of recognizing a net income tax benefit of approximately $5.2 million related to our ability to carry back prior year losses to tax years with the higher 35% corporate income tax rate.

Due to the uncertainty associated with the extent and ultimate impact of the significant supply chain constraints affecting the automotive industry, including COVID-19, the semiconductor shortage and resulting impact on global automotive production volumes, and the conflict between Russia and Ukraine, we may experience lower than projected earnings in certain jurisdictions in future periods, and as a result, it is reasonably possible that changes in valuation allowances could be recognized in future periods and such changes could be material to our financial statements.

**NET INCOME AND EARNINGS PER SHARE (EPS)** Net income was $64.3 million in 2022 as compared to $5.9 million in 2021. Diluted earnings per share was $0.53 in 2022 as compared to $0.05 per share in 2021. Net income and EPS were primarily impacted by the factors discussed above.

**SEGMENT REPORTING**

Our business is organized into Driveline and Metal Forming segments, with each representing a reportable segment under Accounting Standards Codification (ASC) 280 - *Segment Reporting*. The results of each segment are regularly reviewed by the chief operating decision maker to assess the performance of the segment and make decisions regarding the allocation of resources to the segments.

Our product offerings by segment are as follows:

- Driveline products consist primarily of front and rear axles, driveshafts, differential assemblies, clutch modules, balance shaft systems, disconnecting driveline technology, and electric and hybrid driveline products and systems for light trucks, SUVs, CUVs, passenger cars and commercial vehicles; and
- Metal Forming products consist primarily of engine, transmission, driveline and safety-critical components for traditional internal combustion engine and electric vehicle architectures including light vehicles, commercial vehicles and off-highway vehicles, as well as products for industrial markets.

On June 1, 2022, our acquisition of Tekfor became effective and we began consolidating the results of Tekfor on that date, which are reported in our Metal Forming segment for the year ended December 31, 2022.

The following tables outline our sales and Segment Adjusted EBITDA for each of our reportable segments for the years ended December 31, 2022, 2021 and 2020 *(in millions)*:

| | Year Ended December 31, 2022 | | |
|---|---|---|---|
| | **Driveline** | **Metal Forming** | **Total** |
| Sales | $ 4,130.8 | $ 2,113.0 | $ 6,243.8 |
| Less: Intersegment sales | 4.7 | 436.7 | 441.4 |
| Net external sales | $ 4,126.1 | $ 1,676.3 | $ 5,802.4 |
| | | | |
| Segment adjusted EBITDA | $ 547.0 | $ 200.3 | $ 747.3 |

| | Year Ended December 31, 2021 | | |
|---|---|---|---|
| | **Driveline** | **Metal Forming** | **Total** |
| Sales | $ 3,744.9 | $ 1,762.2 | $ 5,507.1 |
| Less: Intersegment sales | 3.4 | 347.1 | 350.5 |
| Net external sales | $ 3,741.5 | $ 1,415.1 | $ 5,156.6 |
| | | | |
| Segment adjusted EBITDA | $ 577.7 | $ 255.6 | $ 833.3 |

| | Year Ended December 31, 2020 | | |
|---|---|---|---|
| | **Driveline** | **Metal Forming** | **Total** |
| Sales | $ 3,375.5 | $ 1,652.0 | $ 5,027.5 |
| Less: Intersegment sales | 2.9 | 313.8 | 316.7 |
| Net external sales | $ 3,372.6 | $ 1,338.2 | $ 4,710.8 |
| | | | |
| Segment adjusted EBITDA | $ 474.8 | $ 245.0 | $ 719.8 |

The increase in Driveline sales for the year ended December 31, 2022, as compared to the year ended December 31, 2021, primarily reflects increased production volumes as the impact of the semiconductor shortage and other supply chain constraints affecting the automotive industry lessened in the year ended December 31, 2022, as compared to the year ended December 31, 2021. We estimate that Driveline sales increased by $214 million for the year ended December 31, 2022 as a result of this increase in production volumes. Driveline sales in 2022 were also positively impacted, as compared to 2021, by an increase in production volumes on certain light truck and CUV programs that we support in North America.

The increase in sales in our Metal Forming segment for the year ended December 31, 2022, as compared to the year ended December 31, 2021, primarily reflects $204 million associated with the acquisition of Tekfor that became effective on June 1, 2022. Metal Forming sales in 2022 also reflect an increase in intersegment sales to Driveline as the Driveline segment experienced increased production volumes on certain light truck and CUV programs that we support in North America.

We use Segment Adjusted EBITDA as the measure of earnings to assess the performance of each segment and determine the resources to be allocated to the segments. For the year ended December 31, 2022, as compared to the year ended December 31, 2021, the change in Segment Adjusted EBITDA for the Driveline segment was primarily attributable to the impact of increased manufacturing costs, including higher metal and commodity costs, higher utility costs and increased transportation costs, partially offset by a net increase in production volumes on vehicle programs we support.

For the year ended December 31, 2022, as compared to the year ended December 31, 2021, the change in Segment Adjusted EBITDA for the Metal Forming segment was primarily attributable to the impact of increased net manufacturing costs, including higher metal and commodity costs, increased labor costs, higher utility costs and increased transportation costs, partially offset by a net increase in production volumes on the vehicle programs we support.

**Reconciliation of Non-GAAP and GAAP Information**

In addition to results reported in accordance with accounting principles generally accepted in the United States of America (GAAP) in this MD&A, we have provided certain non-GAAP financial measures such as EBITDA and Total Segment Adjusted EBITDA. Such information is reconciled to its closest GAAP measure in accordance with Securities and Exchange Commission rules below.

We define EBITDA to be earnings before interest expense, income taxes, depreciation and amortization. Total Segment Adjusted EBITDA is defined as EBITDA for our reportable segments excluding the impact of restructuring and acquisition-related costs, debt refinancing and redemption costs, loss on the sale of a business, impairment charges, pension settlements, unrealized gains or losses on equity securities, and non-recurring items. We believe that EBITDA and Total Segment Adjusted EBITDA are meaningful measures of performance as they are commonly utilized by management and investors to analyze operating performance and entity valuation. Our management, the investment community and the banking institutions routinely use EBITDA and Total Segment Adjusted EBITDA, together with other measures, to measure our operating performance relative to other tier 1 automotive suppliers and to assess the relative mix of Adjusted EBITDA by segment. We also believe that Total Segment Adjusted EBITDA is a meaningful measure as it is used for operational planning and decision-making purposes. EBITDA and Total Segment Adjusted EBITDA are also key metrics used in our calculation of incentive compensation. These non-GAAP financial measures are not and should not be considered a substitute for any GAAP measure. Additionally, non-GAAP financial measures as presented by AAM may not be comparable to similarly titled measures reported by other companies.

| | Year Ended December 31, | | |
|---|---|---|---|
| | **2022** | **2021** | **2020** |
| | | *(in millions)* | |
| Net income (loss) | **$ 64.3** | $ 5.9 | $ (561.1) |
| Interest expense | **174.5** | 195.2 | 212.3 |
| Income tax expense (benefit) | **2.0** | (4.7) | (49.2) |
| Depreciation and amortization | **492.1** | 544.3 | 521.9 |
| EBITDA | **$ 732.9** | $ 740.7 | $ 123.9 |
| Restructuring and acquisition-related costs | **30.2** | 49.4 | 67.2 |
| Debt refinancing and redemption costs | **6.4** | 34.0 | 7.9 |
| Loss on sale of business | **—** | 2.7 | 1.0 |
| Impairment charges | **—** | — | 510.0 |
| Unrealized loss (gain) on equity securities | **25.5** | (24.4) | — |
| Pension settlements | **—** | 42.3 | 0.5 |
| Non-recurring items: | | | |
| Malvern Fire charges (insurance recoveries), net | **(39.1)** | (11.4) | 9.3 |
| Gain on bargain purchase of business | **(13.6)** | — | — |
| Acquisition-related fair value inventory adjustment | **5.0** | — | — |
| Total Segment Adjusted EBITDA | **$ 747.3** | $ 833.3 | $ 719.8 |

## LIQUIDITY AND CAPITAL RESOURCES

Our primary liquidity needs are to fund debt service obligations, capital expenditures and working capital requirements, in addition to advancing our strategic initiatives. At December 31, 2022 we had over $1.4 billion of liquidity consisting of approximately $512 million of cash and cash equivalents, approximately $866 million of available borrowings under our Revolving Credit Facility and approximately $58 million of available borrowings under foreign credit facilities. We have no significant debt maturities before 2026. We believe that operating cash flow, available cash and cash equivalent balances and available committed borrowing capacity under our Senior Secured Credit Facilities and foreign credit facilities will be sufficient to meet these needs.

**OPERATING ACTIVITIES** Net cash provided by operating activities was $448.9 million in 2022 as compared to $538.4 million in 2021. The following factors impacted cash provided by operating activities:

**Impact of Supply Chain Constraints** We experienced an adverse impact on cash flows from operating activities as a result of the significant supply chain constraints that continued to impact the automotive industry during the year ended December 31, 2022, including increased metal and commodity costs, higher utility costs, increased transportation costs, higher labor costs and labor shortages. We expect these supply chain constraints to continue in 2023.

**Accounts receivable** For the year ended December 31, 2022, we experienced a decrease in cash flow from operating activities of $62 million related to the change in our accounts receivable balance from December 31, 2021 to December 31, 2022, as compared to the change in our accounts receivable balance from December 31, 2020 to December 31, 2021. This change was primarily attributable to the timing of sales to customers in the applicable periods.

**Inventories** In 2022, we experienced an increase in year-over-year cash flow from operating activities of approximately $72 million related to the change in our inventories balance from December 31, 2021 to December 31, 2022, as compared to the change in our inventories balance from December 31, 2020 to December 31, 2021. In 2021, we began to increase inventory levels as a result of volatility in production schedules and unexpected downtime at certain of our manufacturing facilities as a result of the semiconductor chip shortage that has impacted the automotive industry. This increase in inventory levels in 2021 was more significant than the increase in 2022.

**Interest paid** Interest paid in 2022 was $172.6 million as compared to $184.9 million in 2021. The decrease in interest paid was primarily the result of our ongoing debt reduction initiatives and our previous refinancing actions. See Note 4 - Long-Term Debt for additional detail.

**Income taxes** Income taxes paid, net was $40.4 million in 2022, as compared to $26.6 million in 2021. During the years ended December 31, 2022 and December 31, 2021, we received income tax refunds of approximately $5.4 million and $6.0 million, respectively, related to the utilization of net operating losses under the provisions of the CARES Act. See Note 1 - Organization and Summary of Significant Accounting Policies for additional detail regarding the CARES Act.

As of December 31, 2022 and December 31, 2021, we have recorded a liability for unrecognized income tax benefits and related interest and penalties of $40.5 million and $23.4 million, respectively.

In January 2023, we paid $10.1 million as a result of the Notice of Tax Due that was received from the Internal Revenue Service in December 2022. See Note 9 - Income Taxes for additional detail regarding the Notice of Tax Due.

**Restructuring and acquisition-related costs** We incurred $30.2 million and $49.4 million of charges related to restructuring and acquisition-related costs in 2022 and 2021, respectively, and a significant portion of these charges were cash charges. In 2023, we expect restructuring and acquisition-related payments to be between $20 million and $30 million for the full year.

**Pension and other postretirement benefits (OPEB)** Our cash payments for OPEB, net of GM cost sharing, were $11.9 million in 2022 and $14.2 million in 2021. This compares to our annual postretirement cost of $8.3 million in 2022 and $8.9 million in 2021. We expect our cash payments for OPEB obligations in 2023, net of GM cost sharing, to be approximately $14.6 million.

Due to the availability of our pre-funded pension balances (previous contributions in excess of prior required pension contributions), we expect our regulatory pension funding requirements in 2023 to be less than $1.0 million.

**Malvern Fire** In 2022, we received $29.1 million of cash as reimbursements and advances under our insurance policies, of which $12.1 million was associated with operating expenses incurred as a result of the Malvern Fire and has been presented as an operating cash inflow in our Consolidated Statement of Cash Flows for the period. At December 31, 2022, we have an insurance recovery receivable of $24.0 million, which is included in Prepaid expenses and other in our Consolidated Balance Sheet. This amount was fully collected in January 2023.

In 2021, we received $59.1 million of cash as reimbursements and advances under our insurance policies of which $36.0 million was associated with operating expenses incurred as a result of the Malvern Fire and has been presented as an operating cash inflow in our Consolidated Statement of Cash Flows for the period. At December 31, 2021, we had an insurance recovery receivable of $11.3 million, which was included in Prepaid expenses and other in our Consolidated Balance Sheet. See Note 15 - Manufacturing Facility Fire and Insurance Recovery for additional detail.

**INVESTING ACTIVITIES** For the year ended December 31, 2022, net cash used in investing activities was $243.0 million as compared to $161.1 million for the year ended December 31, 2021. Capital expenditures were $171.4 million in 2022 and $181.2 million in 2021. We expect our capital spending in 2023 to be 3.5% to 4% of sales, which includes support for our global program launches in 2023 and 2024 within our new and incremental business backlog, as well as program capacity increases and future launches of replacement programs.

On June 1, 2022, our acquisition of Tekfor became effective and we paid approximately $80 million, net of cash acquired, which was funded entirely with cash on hand. Also in 2022, we made payments for the acquisition of a supplier in Mexico and began to pay the deferred consideration associated with our acquisition of Emporium that was completed in 2021. These payments totaled approximately $9 million in the year ended December 31, 2022. In 2021, we paid cash of $4.9 million for the acquisition of Emporium. See Note 16 - Acquisitions and Dispositions for further detail.

In 2022 and 2021, in addition to the $12.1 million and $36.0 million, respectively, of cash reimbursements and advances received under our insurance policies associated with operating expenses incurred as a result of the Malvern Fire, we received $17.0 million and $23.1 million, respectively, of cash associated with machinery and equipment that was damaged or destroyed as a result of the Malvern Fire. This cash received has been classified as an investing cash inflow based on the nature of the associated loss incurred.

**FINANCING ACTIVITIES** Net cash used in financing activities was $217.2 million in 2022, compared to net cash used in financing activities of $401.4 million in 2021. Total debt outstanding, net of debt issuance costs, was $2,921.0 million at year-end 2022 and $3,104.5 million at year-end 2021. The change in total debt outstanding, net of issuance costs, at year-end 2022, as compared to year-end 2021, was primarily due to the factors noted below.

**Senior Secured Credit Facilities** Our Senior Secured Credit Facilities, which are comprised of our Revolving Credit Facility, our Term Loan A Facility, and our Term Loan B Facility, provide back-up liquidity for our foreign credit facilities. We intend to use the availability of long-term financing under the Senior Secured Credit Facilities to refinance any current maturities related to such debt agreements that are not otherwise refinanced on a long-term basis in their local markets, except where otherwise reclassified to Current portion of long-term debt on our Consolidated Balance Sheet.

In March 2022, Holdings and AAM, Inc. entered into the Amended and Restated Credit Agreement. The Amended and Restated Credit Agreement, among other things, increased the principal amount of the Term Loan A Facility to $520.0 million, extended the maturity date of the Term Loan A Facility and the Revolving Credit Facility, and established the use under the Term Loan A Facility and Revolving Credit Facility of updated reference rates. See Note 4 - Long-Term Debt for further detail on the Amended and Restated Credit Agreement. As a result, we expensed $0.2 million of debt refinancing costs, paid accrued interest of $1.0 million, and paid debt issuance costs of $4.5 million in 2022 related to the Amended and Restated Credit Agreement.

In December 2022, Holdings and AAM, Inc. entered into the Refinancing Facility Agreement, under the Amended and Restated Credit Agreement and established a new Term Loan B Facility of $675.0 million. The proceeds from the Refinancing Facility Agreement, together with $50.0 million cash on hand and the proceeds of a $25.0 million borrowing under the Revolving Credit Facility, were used to (a) prepay the entire principal amount of the then outstanding Term Loan B Facility, (b) pay all accrued and unpaid interest due under the Term Loan B Facility and (c) pay fees, costs and expenses payable in connection with the refinancing of the Term Loan B Facility. We expensed $0.4 million of debt refinancing costs, paid accrued interest of $2.4 million, and paid debt issuance costs of $26.9 million related to the Refinancing Facility Agreement. See Note 4 - Long-Term Debt for further detail on the Refinancing Facility Agreement.

In 2022, prior to entering into the Refinancing Facility Agreement, we made voluntary prepayments totaling $100.0 million on our then outstanding term loan B facility. As a result, we expensed approximately $0.6 million for the write-off of a portion of the unamortized debt issuance costs that we had been amortizing over the expected life of this borrowing.

In 2021, we made voluntary prepayments totaling $21.2 million on our Term Loan A Facility and $238.8 million on our Term Loan B Facility. As a result, we expensed approximately $2.5 million for the write-off of a portion of the unamortized debt issuance costs that we had been amortizing over the expected life of these borrowings.

At December 31, 2022, $865.9 million was available under the Revolving Credit Facility. This availability reflects a reduction of $34.1 million for standby letters of credit issued against the facility. The proceeds of the Revolving Credit Facility are used for general corporate purposes.

***Redemption of 6.25% Notes due 2026*** In the first quarter of 2022, we used the proceeds from the upsized Term Loan A Facility to voluntarily redeem a portion of our 6.25% Notes due 2026. This resulted in a principal payment of $220.0 million and $0.2 million in accrued interest. We also expensed approximately $1.8 million for the write-off of a portion of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing, and approximately $3.4 million for the payment of an early redemption premium.

***Repayment of Tekfor Group Indebtedness*** Upon the acquisition of Tekfor, we assumed $23.4 million of existing Tekfor indebtedness, of which we repaid $10.7 million in 2022.

***5.00% Notes due 2029*** In 2021, we issued $600.0 million in aggregate principal amount of 5.00% Notes due 2029 (the 5.00% Notes). Proceeds from the 5.00% Notes were used to fund the redemption of the remaining $600.0 million of our former 6.25% senior notes due 2025. We paid debt issuance costs of $9.2 million in the year ended December 31, 2021 related to the 5.00% Notes.

***Redemption of 6.25% Notes due 2025*** In 2021, we voluntarily redeemed our 6.25% Notes due 2025. This resulted in principal payments totaling $700.0 million and $19.4 million in accrued interest. We also expensed approximately $9.6 million for the write-off of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing, and approximately $21.9 million for the payment of an early redemption premium.

**Foreign Credit Facilities** We utilize local currency credit facilities to finance the operations of certain foreign subsidiaries. At December 31, 2022, $72.7 million was outstanding under our foreign credit facilities and an additional $57.8 million was available, as compared to December 31, 2021, when $86.1 million was outstanding under our foreign credit facilities and an additional $65.1 million was available.

**Treasury stock** Treasury stock increased by $1.9 million in 2022 to $218.2 million as compared to $216.3 million at year-end 2021, due to the withholding and repurchase of shares of AAM stock to satisfy employee tax withholding obligations due upon the vesting of stock-based compensation.

**Credit ratings** To access public debt capital markets, the Company relies on credit rating agencies to assign short-term and long-term credit ratings to our securities as an indicator of credit quality for fixed income investors. A credit rating agency may change or withdraw its ratings based on its assessment of our current and future ability to meet interest and principal repayment obligations. Credit ratings may affect our cost of borrowing and/or our access to debt capital markets. The credit ratings and outlook currently assigned to our securities by the rating agencies are as follows:

| | Corporate Family Rating | Senior Unsecured Notes Rating | Senior Secured Notes Rating | Outlook |
|---|---|---|---|---|
| Standard & Poor's | BB- | B+ | BB+ | Stable |
| Moody's Investors Services | B1 | B2 | Ba1 | Stable |

**Dividend program** We have not declared or paid any cash dividends on our common stock in 2022 or 2021.

**Contractual obligations** Our contractual obligations consist primarily of: 1) current and long-term debt; 2) operating and finance lease obligations; 3) obligated purchase commitments for capital expenditures and related project expense; 4) pension and other postretirement benefit obligations, net of GM cost sharing; and 5) interest obligations. Information regarding expected payments by period can be found in Item 8, "Financial Statements and Supplementary Data" in this Form 10-K at Note 4 - Long-Term Debt for our current and long-term debt obligations, Note 14 - Leasing for our operating and finance lease obligations, Note 11 - Commitments and Contingencies for purchase commitments related to capital expenditures and project expense, and Note 7 - Employee Benefit Plans for pension and other postretirement benefit obligations.

The expected future interest obligations associated with our current and long-term debt and finance lease obligations are approximately as follows: $192 million in 2023, $188 million in 2024, $186 million in 2025, $173 million in 2026, $126 million in 2027, and $184 million in 2028 and thereafter.

***Subsidiary Guarantees of Registered Debt Securities*** Our 6.875% Notes, 6.50% Notes, 6.25% Notes and 5.00% Notes (collectively, the Notes) are senior unsecured obligations of AAM, Inc. (Issuer); all of which are fully and unconditionally guaranteed, on a joint and several basis, by Holdings and substantially all domestic subsidiaries of AAM, Inc. and MPG Inc. (Subsidiary Guarantors). Holdings has no significant assets other than its 100% ownership in AAM, Inc. and MPG Inc., and no direct subsidiaries other than AAM, Inc. and MPG Inc.

Each guarantee by Holdings and/or any of the Subsidiary Guarantors is:

- a senior obligation of the relevant Subsidiary Guarantors;
- the unsecured and unsubordinated obligation of the relevant Subsidiary Guarantors; and
- of equal rank with all other existing and future unsubordinated and unsecured indebtedness of the relevant Subsidiary Guarantors.

Each guarantee by a Subsidiary Guarantor provides by its terms that it will be automatically, fully and unconditionally released and discharged upon:

- any sale, exchange or transfer (by merger or otherwise) of the capital stock of such Subsidiary Guarantor, or the sale or disposition of all the assets of such Subsidiary Guarantor, which sale, exchange, transfer or disposition is made in compliance with the applicable provisions of the indentures;
- the exercise by the issuer of its legal defeasance option or covenant defeasance option or the discharge of the issuer’s obligations under the indentures in accordance with the terms of the indentures; or
- the election of the issuer to affect such a release following the date that such guaranteed Notes have an investment grade rating from both Standard & Poor's Ratings Group, Inc, and Moody's Investors Service, Inc.

The following represents summarized financial information of Holdings, AAM Inc. and the Subsidiary Guarantors (collectively, the Combined Entities). The information has been prepared on a combined basis and excludes any investments of AAM Holdings, AAM Inc., or the Subsidiary Guarantors in non-guarantor subsidiaries. Intercompany transactions and amounts between Combined Entities have been eliminated.

| **Statement of Operations Information** | *(in millions)* | |
|---|---|---|
| | **Year Ended December 31, 2022** | **Year Ended December 31, 2021** |
| Net sales | **$ 4,429.5** | $ 3,983.0 |
| Gross profit | **445.2** | 410.8 |
| Income (loss) from operations | **25.1** | (27.4) |
| Net loss | **(59.7)** | (158.6) |

| **Balance Sheet Information** | *(in millions)* | |
|---|---|---|
| | **December 31, 2022** | **December 31, 2021** |
| Current assets | **$ 1,061.9** | $ 1,034.6 |
| Noncurrent assets | **2,317.9** | 2,524.2 |
| Current liabilities | **1,360.4** | 1,183.7 |
| Noncurrent liabilities | **3,345.3** | 3,791.1 |
| Redeemable preferred stock | **—** | — |
| Noncontrolling interest | **—** | — |

At December 31, 2022 and December 31, 2021, amounts owed by the Combined Entities to non-guarantor entities totaled approximately $945 million and $800 million, respectively, and amounts owed to the Combined Entities from non-guarantor entities totaled approximately $620 million and $655 million, respectively.

**CYCLICALITY AND SEASONALITY**

Our operations are cyclical because they are directly related to worldwide automotive production, which is itself cyclical and dependent on general economic conditions and other factors. Typically, our business is moderately seasonal as our major OEM customers historically have an extended shutdown of operations (normally 1-2 weeks) in conjunction with their model year changeover and an approximate one-week shutdown in the month of December. Our major OEM customers also occasionally have longer shutdowns of operations (up to six weeks) for program changeovers. Accordingly, our quarterly results may reflect these trends.

**LEGAL PROCEEDINGS**

See Note 11 - Commitments and Contingencies in Item 8, "Financial Statements and Supplementary Data" for discussion of legal proceedings and the effect on AAM.

**EFFECT OF NEW ACCOUNTING STANDARDS**

See Note 1 - Organization and Summary of Significant Accounting Policies in Item 8, "Financial Statements and Supplementary Data" for discussion of new accounting standards and the effect on AAM.

**CRITICAL ACCOUNTING ESTIMATES**

In order to prepare consolidated financial statements in conformity with GAAP, we are required to make estimates and assumptions that affect the reported amounts and disclosures in our consolidated financial statements. These estimates are subject to an inherent degree of uncertainty and actual results could differ from our estimates.

Other items in our consolidated financial statements require estimation. In our judgment, they are not as critical as those disclosed below. We have discussed and reviewed our critical accounting estimates disclosure with the Audit Committee of our Board of Directors.

**VALUATION OF DEFERRED TAX ASSETS AND OTHER TAX LIABILITIES** Because we operate in many different geographic locations, including several foreign, state and local tax jurisdictions, the evaluation of our ability to use all recognized deferred tax assets is complex. In accordance with ASC 740 - *Income Taxes*, we review the likelihood that we will realize the benefit of deferred tax assets and estimate whether recoverability of our deferred tax assets is “more likely than not,” based on forecasts of taxable income in the related tax jurisdictions. In determining the requirement for a valuation allowance, the historical results, projected future operating results based upon approved business plans, eligible carry forward periods, and tax planning opportunities are considered, along with other relevant positive and negative evidence. If, based upon available evidence, it is more likely than not the deferred tax assets will not be realized, a valuation allowance is recorded.

As of December 31, 2022, we have a valuation allowance of approximately $217.5 million related to net deferred tax assets in several foreign jurisdictions and U.S. federal, state and local jurisdictions. As of December 31, 2021 and 2020, our valuation allowance was $201.7 million and $208.0 million, respectively.

If, in the future, we generate taxable income on a sustained basis in foreign and U.S. federal, state and local jurisdictions for which we have recorded valuation allowances, our current estimate of the recoverability of our deferred tax assets could change and result in the future reversal of some or all of the valuation allowance. While we believe we have made appropriate valuations of our deferred tax assets, unforeseen changes in tax legislation, regulatory activities, audit results, operating results, financing strategies, organization structure and other related matters may result in material changes in our deferred tax asset valuation allowances or our tax liabilities.

Further, due to the uncertainty associated with the extent and ultimate impact of the significant supply chain constraints affecting the automotive industry, including COVID-19, the semiconductor shortage and resulting impact on global automotive production volumes, and the conflict between Russia and Ukraine, we may experience lower than projected earnings in certain jurisdictions in future periods, and as a result, it is reasonably possible that changes in valuation allowances could be recognized in future periods and such changes could be material to our financial statements.

***Unrecognized Income Tax Benefits***

We record uncertain tax positions on the basis of a two-step process whereby: (1) we determine whether it is "more likely than not" that the tax positions will be sustained based on the technical merits of the position: and (2) for those positions that meet the "more likely than not" recognition threshold, we recognize the largest amount of tax benefit that is greater than 50% likely to be realized upon ultimate settlement with the related tax authority. We record interest and penalties on uncertain tax positions in income tax expense (benefit). As of December 31, 2022 and 2021, we had a liability for unrecognized income tax benefits and related interest and penalties of $40.5 million and $23.4 million, respectively. We continue to monitor the progress and conclusions of all ongoing audits and other communications with tax authorities and adjust our estimated liability as necessary.

***Other Income Tax Matters***

We operate in multiple jurisdictions throughout the world and the income tax returns of several subsidiaries in various tax jurisdictions are currently under examination. During their examination of our 2015 U.S. federal income tax return, the Internal Revenue Service (IRS) asserted that income earned by a Luxembourg subsidiary from its Mexican branch operations should be categorized as foreign base company sales income (FBCSI) under Section 954(d) of the Internal Revenue Code and recognized currently as taxable income on our 2015 U.S. federal income tax return. As a result of this assertion, the IRS issued a Notice of Proposed Adjustment (NOPA). AAM disagreed with the NOPA, believes that the proposed adjustment is without merit and contested the matter through the IRS's administrative appeals process. No resolution was reached in the appeals process and in September 2022, the IRS issued a Notice of Deficiency. The IRS subsequently issued a Notice of Tax Due in December 2022 and AAM paid the assessed tax and interest of $10.1 million in January 2023. We intend to file a claim for refund for the amount of tax and interest paid related to this matter for the 2015 tax year and, if necessary, file suit in the U.S.Court of Federal Claims. We believe it is likely that we will be successful in ultimately defending our position. As such, we have not recorded any impact of the IRS’s proposed adjustment in our consolidated financial statements as of, and for the year ended, December 31, 2022. As of December 31, 2022, in the event AAM is not successful in defending its position, the potential additional income tax expense, including estimated interest charges, related to tax years 2015 through 2022, is estimated to be in the range of approximately $285 million to $335 million.

In a matter of related interest, in May 2020, the U.S Tax Court ruled against another U.S. corporation, finding that the income it earned through a Mexican branch of its Luxembourg subsidiary corporation was FBCSI. In that situation, the taxpayer appealed the U.S. Tax Court decision to the U.S. Court of Appeals for the Sixth Circuit. In December 2021, the U.S. Court of Appeals affirmed, in a split decision, the Tax Court decision in favor of the IRS. In January 2022, the taxpayer in the above referenced matter filed a petition for rehearing and this petition was denied. Finally, in June 2022, the taxpayer filed a petition with the U.S. Supreme Court to review the judgment of the U.S. Court of Appeals for the Sixth Circuit and in November 2022 that petition was also denied. Notwithstanding the decisions rendered in that case, and because our position is based upon different facts and circumstances, including but not limited to, differences in structure, and different income tax regulations in effect for our tax years under examination, we continue to believe, after consultation with tax and legal counsel that it is more likely than not that our structure does not give rise to FBCSI.

**PENSION AND OTHER POSTRETIREMENT BENEFITS** In calculating our assets, liabilities and expenses related to pension and OPEB, key assumptions include the discount rate, expected long-term rates of return on plan assets, mortality projections and rates of increase in health care costs.

The discount rates used in the valuation of our U.S. pension and OPEB obligations were based on an actuarial review of a hypothetical portfolio of long-term, high quality corporate bonds matched against the expected payment stream for each of our plans. In 2022, the weighted-average discount rates determined on that basis were 5.50% for the valuation of both our pension benefit obligations and the valuation of our OPEB obligations. The discount rates used in the valuations of our non-U.S. pension obligations were based on hypothetical yield curves developed from corporate bond yield information within each regional market. In 2022, the weighted-average discount rate determined on that basis was 4.40% for our non-U.S. plans. The expected weighted-average long-term rates of return on our plan assets were 6.75% for our U.S. plans, and 4.00% for our non-U.S. plans in 2022.

We developed these rates of return assumptions based on future capital market expectations for the asset classes represented within our portfolio and a review of long-term historical returns. The asset allocation for our plans was developed in consideration of the demographics of the plan participants and expected payment stream of the liability. Our investment policy allocates approximately 25% - 35% of the U.S. plan assets to equity securities, with the remainder invested in fixed income securities, hedge fund investments and cash. The rates of increase in health care costs are based on current market conditions, inflationary expectations and historical information.

All of our assumptions were developed in consultation with our actuarial service providers. While we believe that we have selected reasonable assumptions for the valuation of our pension and OPEB obligations at year-end 2022, actual trends could result in materially different valuations.

The effect on our pension plans of a 0.5% decrease in both the discount rate and expected return on assets is shown below as of December 31, 2022, our valuation date.

| | Discount Rate | Expected Return on Assets |
|---|---|---|
| | (in millions) | |
| Decline in funded status | $ (26.3) | N/A |
| Increase in 2022 expense | $ 0.1 | $ 2.7 |

*No changes in benefit levels or in the amortization of gains or losses have been assumed.*

For 2023, we assumed a weighted-average annual increase in the per-capita cost of covered health care benefits of 6.4% for OPEB. The rate is assumed to decrease gradually to 5.0% by 2030 and remain at that level thereafter. A 0.5% decrease in the discount rate for our OPEB would have increased total expense in 2022 and the postretirement obligation, net of GM cost sharing, at December 31, 2022 by $0.2 million and $9.3 million, respectively. A 1.0% increase in the assumed health care trend rate would have increased total service and interest cost in 2022 and the postretirement obligation, net of GM cost sharing, at December 31, 2022 by $0.8 million and $14.6 million, respectively.

AAM and GM share in the cost of OPEB for eligible retirees proportionally based on the length of service an employee had with AAM and GM. We estimate the future cost sharing payments and present it as an asset on our Consolidated Balance Sheet. As of December 31, 2022, we estimated $138.2 million in future GM cost sharing. If, in the future, GM were unable to fulfill this financial obligation, our OPEB obligations could be different than our current estimates.

**GOODWILL** We record goodwill when the purchase price of acquired businesses exceeds the value of their identifiable net tangible and intangible assets acquired. We periodically evaluate goodwill for impairment in accordance with the accounting guidance for goodwill and other indefinite-lived intangibles that are not amortized. We review our goodwill for impairment annually during the fourth quarter. In addition, we review goodwill for impairment whenever adverse events or changes in circumstances indicate a possible impairment.

This review is performed at the reporting unit level, and involves a comparison of the fair value of the reporting unit with its carrying amount, including goodwill. If the fair value of the reporting unit exceeds its carrying amount, goodwill of the reporting unit is not considered impaired. If the carrying amount of the reporting unit exceeds its fair value, an impairment loss is recognized in an amount equal to the excess carrying value over fair value.

In performing goodwill impairment testing, we utilize a third-party valuation specialist to assist management in determining the fair value of our reporting units. Fair value of each reporting unit is estimated based on a combination of discounted cash flows and the use of pricing multiples derived from an analysis of comparable public companies multiplied against historical and/or anticipated financial metrics of each reporting unit. These calculations contain uncertainties as they require management to make assumptions including, but not limited to, market comparables, future cash flows of the reporting units, and appropriate discount and long-term growth rates. A decline in the actual cash flows of our reporting units in future periods, as compared to the projected cash flows used in our valuations, could result in the carrying value of the reporting units exceeding their respective fair values. Further, a change in market comparables, discount rate or long-term growth rate, as a result of a change in economic conditions or otherwise, could result in the carrying values of the reporting units exceeding their respective fair values.

Our business is organized into two segments: Driveline and Metal Forming. Under the goodwill guidance, we determined that each of our segments represents a reporting unit. The determination of our reporting units and impairment indicators also require us to make significant judgments. At December 31, 2022 all goodwill was associated with our Driveline reporting unit. As a result of our goodwill impairment test completed in the fourth quarter of 2022, we determined that the fair value of our Driveline reporting unit exceeded its carrying value by approximately 15%. See Note 3 - Goodwill and Other Intangible Assets for further detail regarding our goodwill impairment analyses for the years 2022, 2021 and 2020.

**IMPAIRMENT OF LONG-LIVED ASSETS** Long-lived assets, excluding goodwill, to be held and used are reviewed for impairment whenever adverse events or changes in circumstances indicate a possible impairment. Recoverability of each “held for use” asset group affected by impairment indicators is determined by comparing the forecasted undiscounted cash flows of the operations to which the assets relate to their carrying amount. If the carrying amount of an asset group exceeds the undiscounted cash flows and is therefore not recoverable, the assets in this group are written down to their estimated fair value. We estimate fair value based on market prices, when available, or on a discounted cash flow analysis. Long-lived assets held for sale are recorded at the lower of their carrying amount or fair value less cost to sell. Significant judgments and estimates used by management when evaluating long-lived assets for impairment include:

- An assessment as to whether an adverse event or circumstance has triggered the need for an impairment review;
- Determination of asset groups, the primary asset within each group, and the primary asset's average estimated useful life;
- Undiscounted future cash flows generated by the assets; and
- Determination of fair value when an impairment is deemed to exist, which may require assumptions related to future general economic conditions, future expected production volumes, product pricing and cost estimates, working capital and capital investment requirements, discount rates and estimated liquidation values.

See Note 3 - Goodwill and Other Intangible Assets for further detail regarding our assessment of impairment of long-lived assets.

**PRODUCT WARRANTY** We record a liability and related charge to cost of goods sold for estimated warranty obligations at the dates our products are sold or when specific warranty issues are identified. Product warranties not expected to be paid within one year are recorded as a noncurrent liability on our Consolidated Balance Sheet. Our estimated warranty obligations for products sold are based on significant management estimates, with input from our warranty, sales, engineering, quality and legal departments. For products and customers with actual warranty payment experience, we estimate warranty costs principally based on past claims history. For certain products and customers, actual warranty payment experience does not exist or is not mature. In these cases, we estimate our costs based on the contractual arrangements with our customers, existing customers' warranty program terms and internal and external warranty data, which includes a determination of our responsibility for potential warranty issues or claims and estimates of repair costs. We actively study trends of our warranty claims and take action to improve product quality and minimize warranty claims. We continuously evaluate these estimates and our customers' administration of their warranty programs. We closely monitor actual warranty claim data and adjust the liability, as necessary, on a quarterly basis.

In addition to our ordinary warranty provisions with our customers, we may be responsible for certain costs associated with product recalls and field actions, which are recorded at the time our obligation is probable and can be reasonably estimated.

Our warranty accrual was $54.1 million as of December 31, 2022 and $59.5 million as of December 31, 2021. During 2022 and 2021, we made adjustments to our warranty accrual to reflect revised estimates regarding our projected future warranty obligations. Actual experience could differ from the amounts estimated requiring adjustments to these liabilities in future periods. It is possible that changes in our assumptions or future warranty issues could materially affect our financial position and results of operations.

## Forward-Looking Statements

In this MD&A and elsewhere in this Form 10-K (Annual Report), we make statements concerning our expectations, beliefs, plans, objectives, goals, strategies, and future events or performance. Such statements are “forward-looking” statements within the meaning of the Private Securities Litigation Reform Act of 1995 and relate to trends and events that may affect our future financial position and operating results. The terms such as “will,” “may,” “could,” “would,” “plan,” “believe,” “expect,” “anticipate,” “intend,” “project,” "target," and similar words or expressions, as well as statements in future tense, are intended to identify forward-looking statements.

Forward-looking statements should not be read as a guarantee of future performance or results and will not necessarily be accurate indications of the times at, or by, which such performance or results will be achieved. Forward-looking statements are based on information available at the time those statements are made and/or management’s good faith belief as of that time with respect to future events and are subject to risks and may differ materially from those expressed in or suggested by the forward-looking statements. Important factors that could cause such differences include, but are not limited to:

- global economic conditions, including the impact of inflation, recession or recessionary concerns, or slower growth in the markets in which we operate;
- reduced purchases of our products by General Motors Company (GM), Stellantis N.V. (Stellantis), Ford Motor Company (Ford) or other customers;
- our ability to respond to changes in technology, increased competition or pricing pressures;
- our ability to develop and produce new products that reflect market demand;
- lower-than-anticipated market acceptance of new or existing products;
- our ability to attract new customers and programs for new products;
- reduced demand for our customers' products (particularly light trucks and sport utility vehicles (SUVs) produced by GM, Stellantis and Ford);
- risks inherent in our global operations (including tariffs and the potential consequences thereof to us, our suppliers, and our customers and their suppliers, adverse changes in trade agreements, such as the United States-Mexico-Canada Agreement (USMCA), immigration policies, political stability or geopolitical conflicts, taxes and other law changes, potential disruptions of production and supply, and currency rate fluctuations);
- supply shortages, such as the semiconductor shortage that the automotive industry is currently experiencing and the availability of natural gas or other fuel and utility sources in certain regions, labor shortages, including increased labor costs, or price increases in raw material and/or freight, utilities or other operating supplies for us or our customers as a result of pandemic or epidemic illness such as COVID-19, geopolitical conflicts, natural disasters or otherwise;
- a significant disruption in operations at one or more of our key manufacturing facilities;
- negative or unexpected tax consequences;
- risks related to a failure of our information technology systems and networks, and risks associated with current and emerging technology threats and damage from computer viruses, unauthorized access, cyber attacks and other similar disruptions;
- our suppliers', our customers' and their suppliers' ability to maintain satisfactory labor relations and avoid work stoppages;
- cost or availability of financing for working capital, capital expenditures, research and development (R&D) or other general corporate purposes including acquisitions, as well as our ability to comply with financial covenants;
- our customers' and suppliers' availability of financing for working capital, capital expenditures, R&D or other general corporate purposes;
- an impairment of our goodwill, other intangible assets, or long-lived assets if our business or market conditions indicate that the carrying values of those assets exceed their fair values;
- liabilities arising from warranty claims, product recall or field actions, product liability and legal proceedings to which we are or may become a party, or the impact of product recall or field actions on our customers;
- our ability or our customers' and suppliers' ability to successfully launch new product programs on a timely basis;
- risks of environmental issues, including impacts of climate-related events, that could result in unforeseen issues or costs at our facilities, or risks of noncompliance with environmental laws and regulations, including reputational damage;
- our ability to maintain satisfactory labor relations and avoid work stoppages;
- our ability to consummate and successfully integrate acquisitions and joint ventures;
- our ability to achieve the level of cost reductions required to sustain global cost competitiveness or our ability to recover certain cost increases from our customers;
- our ability to realize the expected revenues from our new and incremental business backlog;
- price volatility in, or reduced availability of, fuel;
- our ability to protect our intellectual property and successfully defend against assertions made against us;
- adverse changes in laws, government regulations or market conditions affecting our products or our customers' products;
- our ability or our customers' and suppliers' ability to comply with regulatory requirements and the potential costs of such compliance;
- changes in liabilities arising from pension and other postretirement benefit obligations;
- our ability to attract and retain qualified personnel in key positions and functions; and
- other unanticipated events and conditions that may hinder our ability to compete.

It is not possible to foresee or identify all such factors and we make no commitment to update any forward-looking statement or to disclose any facts, events or circumstances after the date hereof that may affect the accuracy of any forward-looking statement.

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

**MARKET RISK**

Our business and financial results are affected by fluctuations in global financial markets, including currency exchange rates and interest rates. Our hedging policy has been developed to manage these risks to an acceptable level based on management's judgment of the appropriate trade-off between risk, opportunity and cost. We do not hold financial instruments for trading or speculative purposes.

**CURRENCY EXCHANGE RISK** From time to time, we use foreign currency forward contracts to reduce the effects of fluctuations in exchange rates relating to certain foreign currencies. At December 31, 2022 and December 31, 2021, we had currency forward contracts outstanding with a total notional amount of $179.9 million and $164.7 million, respectively. The potential decrease in fair value of foreign exchange contracts, assuming a 10% adverse change in the foreign currency exchange rates, would be approximately $16.4 million at December 31, 2022 and was approximately $15.0 million at December 31, 2021.

In 2020, we entered into a fixed-to-fixed cross-currency swap to reduce the variability of functional currency equivalent cash flows associated with changes in exchange rates on certain Euro-based intercompany loans. In the second quarter of 2022, we discontinued this fixed-to-fixed cross-currency swap, which was in an asset position of $9.7 million on the date that it was discontinued. Also in the second quarter of 2022, we entered into a new fixed-to-fixed cross-currency swap to reduce the variability of functional currency equivalent cash flows associated with changes in exchange rates on certain Euro-based intercompany loans. The notional amount of the fixed-to-fixed cross currency swap is €200.0 million, which was equivalent to $213.9 million and $226.9 million at December 31, 2022 and December 31, 2021, respectively. The potential decrease in fair value of the fixed-to-fixed cross-currency swap, assuming a 10% adverse change in foreign currency exchange rates, would be approximately $21.4 million at December 31, 2022 and was approximately $22.7 million at December 31, 2021.

Future business operations and opportunities, including the expansion of our business outside North America, may further increase the risk that cash flows resulting from these global operations may be adversely affected by changes in currency exchange rates. If and when appropriate, we intend to manage these risks by creating natural hedges in the structure of our global operations, utilizing local currency funding of these expansions and various types of foreign exchange contracts.

**INTEREST RATE RISK** We are exposed to variable interest rates on certain credit facilities. From time to time, we have used interest rate hedging to reduce the effects of fluctuations in market interest rates. In 2019, we entered into a variable-to-fixed interest rate swap to reduce the variability of cash flows associated with interest payments on our variable rate debt. In the second quarter of 2022, we discontinued this variable-to-fixed interest rate swap, which was in an asset position of $6.1 million on the date that it was discontinued. Also in the second quarter of 2022, we entered into a new variable-to-fixed interest rate swap to reduce the variability of cash flows associated with interest payments on our variable rate debt. As of December 31, 2022, we have $500.0 million notional amount hedged in relation to our variable-to-fixed interest rate swap into the third quarter of 2027.

The pre-tax earnings and cash flow impact of a one-percentage-point increase in interest rates (approximately 15% of our weighted-average interest rate at December 31, 2022) on our long-term debt outstanding at December 31, 2022 would be approximately $7.5 million and was approximately $4.2 million at December 31, 2021, on an annualized basis.

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

**Consolidated Statements of Operations**
Year Ended December 31,

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| | *(in millions, except per share data)* | | |
| Net sales | **$ 5,802.4** | $ 5,156.6 | $ 4,710.8 |
| Cost of goods sold | **5,097.5** | 4,433.9 | 4,128.1 |
| Gross profit | **704.9** | 722.7 | 582.7 |
| Selling, general and administrative expenses | **345.1** | 344.2 | 313.9 |
| Amortization of intangible assets | **85.7** | 85.8 | 86.6 |
| Impairment charges (Note 3) | **—** | — | 510.0 |
| Restructuring and acquisition-related costs | **30.2** | 49.4 | 67.2 |
| Loss on sale of business (Note 16) | **—** | 2.7 | 1.0 |
| Operating income (loss) | **243.9** | 240.6 | (396.0) |
| Interest expense | **(174.5)** | (195.2) | (212.3) |
| Interest income | **17.0** | 10.9 | 11.6 |
| Other income (expense) | | | |
| Debt refinancing and redemption costs | **(6.4)** | (34.0) | (7.9) |
| Gain on bargain purchase of business | **13.6** | — | — |
| Pension settlement charges | **—** | (42.3) | (0.5) |
| Unrealized gain (loss) on equity securities | **(25.5)** | 24.4 | — |
| Other expense, net | **(1.8)** | (3.2) | (5.2) |
| Income (loss) before income taxes | **66.3** | 1.2 | (610.3) |
| Income tax expense (benefit) | **2.0** | (4.7) | (49.2) |
| Net income (loss) | **$ 64.3** | $ 5.9 | $ (561.1) |
| Net income attributable to noncontrolling interests | **—** | — | (0.2) |
| Net income (loss) attributable to AAM | **$ 64.3** | $ 5.9 | $ (561.3) |
| Basic earnings (loss) per share | **$ 0.54** | $ 0.05 | $ (4.96) |
| Diluted earnings (loss) per share | **$ 0.53** | $ 0.05 | $ (4.96) |

*See accompanying notes to consolidated financial statements*

**Consolidated Statements of Comprehensive Income (Loss)**
Year Ended December 31,

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| | | *(in millions)* | |
| Net income (loss) | **$ 64.3** | $ 5.9 | $ (561.1) |
| Other comprehensive income (loss) | | | |
| Defined benefit plans, net of tax of $(31.8) million, $(18.2) million and $12.7 million in 2022, 2021 and 2020, respectively | **95.0** | 69.1 | (51.1) |
| Foreign currency translation adjustments | **(38.4)** | (10.2) | (0.2) |
| Changes in cash flow hedges, net of tax of $(6.5) million, $(3.9) million and $1.3 million in 2022, 2021 and 2020, respectively | **32.8** | 8.5 | (4.4) |
| Other comprehensive income (loss) | **89.4** | 67.4 | (55.7) |
| Comprehensive income (loss) | **$ 153.7** | $ 73.3 | $ (616.8) |
| Net income attributable to noncontrolling interests | **—** | — | (0.2) |
| Foreign currency translation adjustments attributable to noncontrolling interests | **—** | — | 0.3 |
| Comprehensive income (loss) attributable to AAM | **$ 153.7** | $ 73.3 | $ (616.7) |

*See accompanying notes to consolidated financial statements*

**Consolidated Balance Sheets**
December 31,

| | 2022 | 2021 |
|---|---|---|
| **Assets** | *(in millions, except per share data)* | |
| Current assets | | |
| Cash and cash equivalents | **$ 511.5** | $ 530.2 |
| Accounts receivable, net | **820.2** | 762.8 |
| Inventories, net | **463.9** | 410.4 |
| Prepaid expenses and other | **197.8** | 152.6 |
| Total current assets | **1,993.4** | 1,856.0 |
| Property, plant and equipment, net | **1,903.0** | 1,996.1 |
| Deferred income taxes | **119.0** | 121.1 |
| Goodwill | **181.6** | 183.8 |
| Other intangible assets, net | **616.2** | 697.2 |
| GM postretirement cost sharing asset | **127.6** | 201.1 |
| Operating lease right-of-use assets | **107.2** | 123.7 |
| Other assets and deferred charges | **421.4** | 456.7 |
| Total assets | **$ 5,469.4** | $ 5,635.7 |
| **Liabilities and Stockholders' Equity** | | |
| Current liabilities | | |
| Current portion of long-term debt | **$ 75.9** | $ 18.8 |
| Accounts payable | **734.0** | 612.8 |
| Accrued compensation and benefits | **186.6** | 195.2 |
| Deferred revenue | **28.1** | 28.1 |
| Current portion of operating lease liabilities | **21.1** | 24.6 |
| Accrued expenses and other | **153.6** | 160.4 |
| Total current liabilities | **1,199.3** | 1,039.9 |
| Long-term debt, net | **2,845.1** | 3,085.7 |
| Deferred revenue | **73.4** | 94.8 |
| Deferred income taxes | **10.7** | 13.5 |
| Long-term portion of operating lease liabilities | **87.2** | 99.9 |
| Postretirement benefits and other long-term liabilities | **626.4** | 844.1 |
| Total liabilities | **4,842.1** | 5,177.9 |
| Stockholders' equity | | |
| Preferred stock, par value $0.01 per share; 10.0 million shares authorized; no shares outstanding in 2022 or 2021 | **—** | — |
| Series common stock, par value $0.01 per share; 40.0 million shares authorized; no shares outstanding in 2022 or 2021 | **—** | — |
| Common stock, par value $0.01 per share; 150.0 million shares authorized; 123.3 million and 122.5 million shares issued as of December 31, 2022 and December 31, 2021, respectively | **1.3** | 1.3 |
| Paid-in capital | **1,369.2** | 1,351.5 |
| Accumulated deficit | **(249.6)** | (313.9) |
| Treasury stock at cost, 8.7 million shares in 2022 and 8.5 million shares in 2021 | **(218.2)** | (216.3) |
| Accumulated other comprehensive income (loss) | | |
| Defined benefit plans, net of tax | **(146.9)** | (241.9) |
| Foreign currency translation adjustments | **(149.7)** | (111.3) |
| Unrecognized gain (loss) on cash flow hedges, net of tax | **21.2** | (11.6) |
| Total stockholders' equity | **627.3** | 457.8 |
| Total liabilities and stockholders' equity | **$ 5,469.4** | $ 5,635.7 |

*See accompanying notes to consolidated financial statements*

**Consolidated Statements of Cash Flows**
Year Ended December 31,

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| | | *(in millions)* | |
| **Operating activities** | | | |
| Net income (loss) | **$ 64.3** | $ 5.9 | $ (561.1) |
| Adjustments to reconcile net income (loss) to net cash provided by operating activities | | | |
| Depreciation and amortization | **492.1** | 544.3 | 521.9 |
| Impairment charges | **—** | — | 510.0 |
| Deferred income taxes | **(29.5)** | (27.2) | (34.1) |
| Stock-based compensation | **17.7** | 18.2 | 19.4 |
| Pensions and other postretirement benefits, net of contributions | **(11.8)** | 19.9 | (15.7) |
| Loss on sale of business, net | **—** | 2.7 | 1.0 |
| Loss (gain) on disposal of property, plant and equipment, net | **(0.5)** | 5.8 | 20.6 |
| Unrealized loss (gain) on equity securities | **25.5** | (24.4) | — |
| Gain on bargain purchase of business | **(13.6)** | — | — |
| Debt refinancing and redemption costs | **6.4** | 34.0 | 7.9 |
| Changes in operating assets and liabilities, net of amounts acquired or disposed | | | |
| Accounts receivable | **(38.7)** | 23.1 | 28.9 |
| Inventories | **(16.2)** | (87.7) | 53.7 |
| Accounts payable and accrued expenses | **61.1** | 62.7 | (37.1) |
| Deferred revenue | **(16.8)** | 13.3 | 5.5 |
| Other assets and liabilities | **(91.1)** | (52.2) | (66.2) |
| Net cash provided by operating activities | **448.9** | 538.4 | 454.7 |
| **Investing activities** | | | |
| Purchases of property, plant and equipment | **(171.4)** | (181.2) | (215.6) |
| Proceeds from sale of property, plant and equipment | **4.7** | 2.0 | 1.7 |
| Purchase buyouts of leases | **(4.0)** | — | (0.1) |
| Final settlement on sale of business | **—** | — | (4.4) |
| Proceeds from sale of business, net | **—** | 1.0 | — |
| Acquisition of business, net of cash acquired | **(88.9)** | (4.9) | — |
| Investment in affiliates | **(0.4)** | (1.1) | — |
| Proceeds from insurance claim (Note 15) | **17.0** | 23.1 | — |
| Net cash used in investing activities | **(243.0)** | (161.1) | (218.4) |
| **Financing activities** | | | |
| Proceeds from Revolving Credit Facility | **25.0** | — | 350.0 |
| Payments of Revolving Credit Facility | **—** | — | (350.0) |
| Proceeds from issuance of long-term debt | **247.9** | 634.7 | 408.0 |
| Payments of long-term debt | **(458.3)** | (1,017.6) | (607.2) |
| Debt issuance costs | **(31.4)** | (9.2) | (11.0) |
| Purchase of treasury stock | **(1.9)** | (4.3) | (2.7) |
| Finance lease obligations and other | **1.5** | (5.0) | (1.6) |
| Net cash used in financing activities | **(217.2)** | (401.4) | (214.5) |
| Effect of exchange rate changes on cash | **(7.4)** | (2.7) | 3.2 |
| Net increase (decrease) in cash and cash equivalents | **(18.7)** | (26.8) | 25.0 |
| Cash and cash equivalents at beginning of year | **530.2** | 557.0 | 532.0 |
| Cash and cash equivalents at end of year | **$ 511.5** | $ 530.2 | $ 557.0 |
| **Supplemental cash flow information** | | | |
| Interest paid | **$ 172.6** | $ 184.9 | $ 192.4 |
| Income taxes paid, net | **$ 40.4** | $ 26.6 | $ 2.1 |
| Non-cash investing activities: Deferred consideration for acquisition of business | **$ —** | $ 10.0 | $ — |

*See accompanying notes to consolidated financial statements*

## Consolidated Statements of Stockholders' Equity

| | Common Stock | | | Retained Earnings | | Accumulated Other | Noncontrolling |
|---|---|---|---|---|---|---|---|
| | Shares Outstanding | Par Value | Paid-in Capital | (Accumulated Deficit) | Treasury Stock | Comprehensive Loss | Interest in Subsidiaries |
| | | | | *(in millions)* | | | |
| **Balance at January 1, 2020** | 112.6 | $ 1.2 | $ 1,313.9 | $ 248.6 | $ (209.3) | $ (376.8) | $ 2.8 |
| Net income (loss) | | | | (561.3) | | | 0.2 |
| Changes in cash flow hedges | | | | | | (4.4) | |
| Foreign currency translation adjustments | | | | | | 0.1 | (0.3) |
| Defined benefit plans, net | | | | | | (51.1) | |
| Vesting of restricted stock units and performance shares | 1.1 | — | | | | | |
| Stock-based compensation | | | 19.4 | | | | |
| Modified-retrospective application of ASU 2016-13 | | | | (7.1) | | | |
| Purchase of treasury stock | (0.4) | | | | (2.7) | | |
| **Balance at December 31, 2020** | 113.3 | $ 1.2 | $ 1,333.3 | $ (319.8) | $ (212.0) | $ (432.2) | $ 2.7 |
| Net income | | | | 5.9 | | | — |
| Changes in cash flow hedges | | | | | | 8.5 | |
| Foreign currency translation adjustments | | | | | | (10.2) | — |
| Defined benefit plans, net | | | | | | 69.1 | |
| Vesting of restricted stock units and performance shares | 1.2 | 0.1 | | | | | |
| Stock-based compensation | | | 18.2 | | | | |
| Purchase of treasury stock | (0.5) | | | | (4.3) | | |
| Sale of business (Note 16) | | | | | | | (2.7) |
| **Balance at December 31, 2021** | 114.0 | $ 1.3 | $ 1,351.5 | $ (313.9) | $ (216.3) | $ (364.8) | $ — |
| Net income | | | | **64.3** | | | **—** |
| Changes in cash flow hedges | | | | | | **32.8** | |
| Foreign currency translation adjustments | | | | | | **(38.4)** | **—** |
| Defined benefit plans, net | | | | | | **95.0** | |
| Vesting of restricted stock units and performance shares | **0.8** | **—** | | | | | |
| Stock-based compensation | | | **17.7** | | | | |
| Purchase of treasury stock | **(0.2)** | | | | **(1.9)** | | |
| **Balance at December 31, 2022** | **114.6** | **$ 1.3** | **$ 1,369.2** | **$ (249.6)** | **$ (218.2)** | **$ (275.4)** | **$ —** |

*See accompanying notes to consolidated financial statements*

## 1. ORGANIZATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

**ORGANIZATION** As a leading global tier 1 automotive and mobility supplier, AAM designs, engineers and manufactures Driveline and Metal Forming technologies to support electric, hybrid and internal combustion vehicles. Headquartered in Detroit with over 80 facilities in 18 countries, AAM is bringing the future faster for a safer and more sustainable tomorrow.

**PRINCIPLES OF CONSOLIDATION** We include the accounts of American Axle & Manufacturing Holdings, Inc. (Holdings) and its subsidiaries in our consolidated financial statements. We eliminate the effects of all intercompany transactions, balances and profits in our consolidation.

**CASH AND CASH EQUIVALENTS** Cash and cash equivalents include all cash balances, savings accounts, sweep accounts, and highly liquid investments in money market funds and certificates of deposit with maturities of 90 days or less at the time of purchase.

**REVENUE RECOGNITION** We are obligated under our contracts with customers to manufacture and supply products for use in our customers' operations. We satisfy these performance obligations at the point in time that the customer obtains control of the products, which is the point in time that the customer is able to direct the use of, and obtain substantially all of the remaining benefits from, the products. This typically occurs upon shipment to the customer in accordance with purchase orders and delivery releases issued by our customers. See Note 13 - Revenue from Contracts with Customers for more detail on our revenue.

**ACCOUNTS RECEIVABLE** The majority of our accounts receivable are due from original equipment manufacturers (OEMs) in the automotive industry and are considered past due when payment is not received within the terms stated within the contract. Trade accounts receivable for our customers are generally due within approximately 50 days from the date our customers receive our product.

Amounts due from customers are stated net of allowances for credit losses. We determine our allowances by considering our expected credit losses, in addition to factors such as our previous loss history, customers' ability to pay their obligations to us, and the condition of the general economy and industry as a whole. The allowance for credit losses was $9.3 million and $2.2 million as of December 31, 2022 and 2021, respectively. We write-off accounts receivable when they become uncollectible.

We have agreements in place with factoring companies to sell customer receivables on a nonrecourse basis from certain of our locations in Europe and Asia. The factoring companies collect payment for the sold receivables and AAM has no continuing involvement with such receivables.

We also participate in an early payment program offered by our largest customer, which allows us to sell certain of our North American receivables from this customer to a third party at our discretion. AAM has no continuing involvement with the sold receivables.

**CUSTOMER TOOLING AND PRE-PRODUCTION COSTS RELATED TO LONG-TERM SUPPLY AGREEMENTS** Engineering, research and development (R&D), and other pre-production design and development costs for products sold on long-term supply arrangements are expensed as incurred unless we have a contractual guarantee for reimbursement from the customer. Reimbursements received for pre-production costs relating to awarded programs are deferred and recognized into revenue over the life of the associated program. Reimbursements received for pre-production costs relating to future programs that have not been awarded, or amounts received for programs that become discontinued prior to production, are recorded as a reduction of expense.

Costs for tooling used to make products sold on long-term supply arrangements for which we have either title to the assets or the noncancelable right to use the assets during the term of the supply arrangement are capitalized in property, plant and equipment. Reimbursable costs for tooling assets for which our customer has title and we do not have a noncancelable right to use during the term of the supply arrangement, are recorded in accounts receivable in our consolidated balance sheets. The reimbursement for the customer-owned tooling is recorded as a reduction of accounts receivable upon collection. Capitalized items and customer receipts in excess of tooling costs specifically related to a supply arrangement are amortized over the shorter of the term of the arrangement or over the estimated useful lives of the related assets.

**INVENTORIES** We state our inventories at the lower of cost or net realizable value. The cost of our inventories is determined using the first-in-first-out method. When we determine that our gross inventories exceed usage requirements, or if inventories become obsolete or otherwise not saleable, we record a provision for such loss as a component of our inventory accounts.

Inventories consist of the following:

| | December 31, | |
|---|---|---|
| | **2022** | **2021** |
| | *(in millions)* | |
| Raw materials and work-in-progress | **$ 398.9** | $ 339.7 |
| Finished goods | **92.5** | 89.3 |
| Gross inventories | **491.4** | 429.0 |
| Inventory valuation reserves | **(27.5)** | (18.6) |
| Inventories, net | **$ 463.9** | $ 410.4 |

**MAINTENANCE, REPAIR AND OPERATIONS (MRO) MATERIALS** We include all spare parts and other durable materials for machinery and equipment that are consumed in the manufacturing process in MRO, which is included in Other assets and deferred charges in our Consolidated Balance Sheets. MRO assets are capitalized at actual cost and amortized on a straight-line basis over a useful life of six years, beginning from their purchase date. Repair costs for MRO assets are expensed in the period incurred. Amortization expense related to MRO was $56.0 million, $61.6 million and $62.4 million for 2022, 2021 and 2020, respectively.

**PROPERTY, PLANT AND EQUIPMENT (PP&E)** We state property, plant and equipment, including amortizable tooling, at historical cost, as adjusted for impairments. Construction in progress includes costs incurred for the construction of buildings and building improvements, and machinery and equipment in process. Repair and maintenance costs that do not extend the useful life or otherwise improve the utility of the asset beyond its existing useful state are expensed in the period incurred.

We record depreciation and tooling amortization using the straight-line method over the estimated useful lives of the depreciable assets. Depreciation and tooling amortization amounted to $350.4 million, $396.9 million and $372.9 million in 2022, 2021 and 2020, respectively.

Property, plant and equipment consists of the following:

| | Estimated | December 31, | |
|---|---|---|---|
| | **Useful Lives** | **2022** | **2021** |
| | *(years)* | *(in millions)* | |
| Land | Indefinite | **$ 57.8** | $ 47.7 |
| Land improvements | 10-15 | **26.5** | 26.8 |
| Buildings and building improvements | 15-40 | **682.0** | 635.8 |
| Machinery and equipment | 3-12 | **3,739.7** | 3,700.3 |
| Construction in progress | | **140.2** | 171.2 |
| | | **4,646.2** | 4,581.8 |
| Accumulated depreciation and amortization | | **(2,743.2)** | (2,585.7) |
| Property, plant and equipment, net | | **$ 1,903.0** | $ 1,996.1 |

As of December 31, 2022, 2021 and 2020, we had unpaid purchases of plant and equipment in our accounts payable of $34.2 million, $20.1 million and $20.4 million, respectively.

**IMPAIRMENT OF LONG-LIVED ASSETS** When impairment indicators exist, we evaluate the carrying value of long-lived assets for potential impairment. We consider projected future undiscounted cash flows, trends and other circumstances in making such estimates and evaluations. If impairment is deemed to exist, the carrying amount of the asset is adjusted based on its fair value. Recoverability of assets “held for use” is determined by comparing the forecasted undiscounted cash flows of the operations to which the assets relate to their carrying amount. When the carrying value of an asset group exceeds its fair value and is therefore nonrecoverable, those assets are written down to fair value. Fair value is determined based on market prices, when available, or a discounted cash flow analysis is performed using management estimates.

**GOODWILL** We record goodwill when the purchase price of acquired businesses exceeds the value of their identifiable net tangible and intangible assets acquired. We test our goodwill annually as of October 1, or more frequently if necessary, for impairment in accordance with the accounting guidance for goodwill and other indefinite-lived intangibles. See Note 3 - Goodwill and Other Intangible Assets, for more detail on our goodwill.

**OTHER INTANGIBLE ASSETS** Intangible assets are valued using primarily the relief from royalty method or the multi-period excess earnings method, both of which utilize significant unobservable inputs. These inputs are defined in the fair value hierarchy as Level 3 inputs, which require management to make estimates and assumptions regarding certain financial measures using forecasted or projected information. See Note 3 - Goodwill and Other Intangible Assets, for more detail on our intangible assets.

**LEASING** We record a right of use asset and lease liability when an agreement grants us the right to substantially all of the economic benefits associated with an identified asset, and we are able to direct the use of that asset throughout the term of the agreement, if such term exceeds 12 months. Options to extend or terminate the agreements have been included in the relevant lease term to the extent that they are reasonably certain to be exercised. For agreements that contain both lease and non-lease components, we account for these agreements as a single lease component for all classes of underlying assets. See Note 14 - Leasing, for more detail on our leases.

**DEBT ISSUANCE COSTS** The costs related to the issuance or modification of long-term debt are deferred and amortized into interest expense over the expected life of the borrowings. As of December 31, 2022 and December 31, 2021, our unamortized debt issuance costs were $60.9 million and $42.3 million, respectively. Debt issuance costs associated with our senior unsecured notes, as well as our Term Loan A Facility and Term Loan B Facility (as defined in Note 4 - Long-Term Debt), are recorded as a reduction to the related debt liability. Debt issuance costs of $9.2 million and $8.9 million related to our Revolving Credit Facility (also as defined in Note 4 - Long-Term Debt), are classified as Other assets and deferred charges on our Consolidated Balance Sheets as of December 31, 2022 and December 31, 2021, respectively. Unamortized debt issuance costs that exist upon the extinguishment of debt are expensed proportionally to the amount of debt extinguished and classified as Debt refinancing and redemption costs on our Consolidated Statements of Operations.

**DERIVATIVES** We recognize all derivatives on the balance sheet at fair value and we are not subject to master netting agreements. If a derivative qualifies under the accounting guidance as a hedge, depending on the nature of the hedge, changes in the fair value of the derivative are either offset against the change in fair value of the hedged asset, liability or firm commitment through earnings or recognized in other comprehensive income until the hedged item is recognized in earnings. Changes in the fair value of derivatives that do not qualify as hedges, are immediately recognized in earnings. See Note 5 - Derivatives and Risk Management, for more detail on our derivatives.

**CURRENCY TRANSLATION AND REMEASUREMENT** We translate the assets and liabilities of our foreign subsidiaries to United States (U.S.) dollars at end-of-period exchange rates. We translate the income statement elements of our foreign subsidiaries to U.S. dollars at average-period exchange rates. We report the effect of translation for our foreign subsidiaries that use the local currency as their functional currency as a separate component of stockholders' equity. Gains and losses resulting from the remeasurement of assets and liabilities in a currency other than the functional currency of a subsidiary are reported in current period income. We also report any gains and losses arising from transactions denominated in a currency other than the functional currency of a subsidiary in current period income. These foreign currency gains and losses resulted in a net gain of $1.9 million for the year 2022 and net losses of $1.7 million and $0.5 million for the years 2021 and 2020, respectively, in Other expense, net.

**PENSION AND OTHER POSTRETIREMENT DEFINED BENEFIT PLANS** Net pension and postretirement benefit expenses and the related liabilities are determined on an actuarial basis. These plan expenses and obligations are dependent on management's assumptions developed in consultation with our actuaries. We review these actuarial assumptions at least annually and make modifications when appropriate. See Note 7 - Employee Benefit Plans, for more detail on our pension and other postretirement defined benefit plans.

**STOCK-BASED COMPENSATION AND OTHER INCENTIVE COMPENSATION** We award stock-based compensation in the form of restricted stock units (RSUs) and performance shares. For the RSUs, the grant date fair value is measured as the stock price at the date of grant. For certain performance based awards, fair value is estimated using valuation techniques that require management to use estimates and assumptions. Certain awards require that management's estimates and assumptions be evaluated at each reporting date to determine if compensation expense related to the award should be adjusted, both on a catch-up and go-forward basis.

We also award incentive compensation in the form of long-term cash awards (LTCAs) and performance units (PUs). We grant the LTCAs payable in cash to certain associates which vest in full over a three-year period. We also grant PUs payable in cash to officers and certain other associates which vest in full over a three-year performance period and are based primarily on AAM's three-year cumulative free cash flow.

Compensation expense is recognized over the period during which the requisite service is provided, referred to as the vesting period. See Note 8 - Stock-Based Compensation and Other Incentive Compensation, for more detail on our accounting for stock-based compensation and other incentive compensation.

**RESEARCH AND DEVELOPMENT COSTS** We expense R&D, as incurred, in selling, general and administrative expenses on our Consolidated Statements of Operations. R&D spending was $144.0 million, $116.8 million and $117.4 million in 2022, 2021 and 2020, respectively. In both 2021 and 2020, our R&D amounts reflect customer engineering, design and development recoveries of approximately $15.0 million.

**DEFERRED INCOME TAX ASSETS AND LIABILITIES AND VALUATION ALLOWANCES** Our deferred income tax assets and liabilities reflect the impact of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the basis of such assets and liabilities for income tax purposes.

In accordance with the accounting guidance for income taxes, we review the likelihood that we will realize the benefit of deferred tax assets and estimate whether recoverability of our deferred tax assets is “more likely than not,” based on forecasts of taxable income in the related tax jurisdictions. In determining the requirement for a valuation allowance, the historical results, projected future operating results based upon approved business plans, eligible carry forward periods, and tax planning opportunities are considered, along with other relevant positive and negative evidence. If, based upon available evidence, it is more likely than not the deferred tax assets will not be realized, a valuation allowance is recorded.

We record uncertain tax positions on the basis of a two-step process whereby: (1) we determine whether it is "more likely than not" that the tax positions will be sustained based on the technical merits of the position: and (2) for those positions that meet the "more likely than not" recognition threshold, we recognize the largest amount of tax benefit that is greater than 50% likely to be realized upon ultimate settlement with the related tax authority. We record interest and penalties on uncertain tax positions in income tax expense (benefit).

See Note 9 - Income Taxes, for more detail on our accounting for income taxes.

**EARNINGS (LOSS) PER SHARE (EPS)** We present EPS using the two-class method. This method allocates undistributed earnings between common shares and non-vested share based payment awards that entitle the holder to non-forfeitable dividend rights. Our participating securities are our non-vested restricted stock units. See Note 10 - Earnings (Loss) Per Share (EPS), for more detail on our accounting for EPS.

**PRODUCT WARRANTY** We record estimated warranty obligation liabilities at the dates our products are sold, using sales volumes and internal and external warranty data where there is no payment history and historical information about the average cost of warranty claims for customers with prior claims. We estimate our costs based on the contractual arrangements with our customers, existing customer warranty terms and internal and external warranty data, which includes a determination of our warranty claims and actions taken to improve product quality and minimize warranty claims. See Note 11 - Commitments and Contingencies, for detail on our accounting for product warranties.

**USE OF ESTIMATES** In order to prepare consolidated financial statements in conformity with accounting principles generally accepted in the United States of America (GAAP), we are required to make estimates and assumptions that affect the reported amounts and disclosures in our consolidated financial statements. Actual results could differ from those estimates.

**EFFECT OF NEW ACCOUNTING STANDARDS AND OTHER REGULATORY PRONOUNCEMENTS**

***Standards Recently Adopted***

*Accounting Standards Update 2021-10*

On November 17, 2021, the FASB issued ASU 2021-10 - Government Assistance (Topic 832). This guidance established requirements for annual disclosures about certain types of material government assistance, including government grants and tax credits. This guidance became effective and we prospectively adopted this guidance on January 1, 2022. The adoption of this standard did not have a material impact on our consolidated financial statements.

***Coronavirus Aid, Relief, and Economic Security Act***

The Coronavirus Aid, Relief, and Economic Security Act (the CARES Act) was enacted on March 27, 2020 in the U.S. The key provisions of the CARES Act, as they have applied to AAM, include the following:

- The ability to use net operating losses (NOLs) to offset income without the 80% taxable income limitation enacted as part of the Tax Cuts and Jobs Act (TCJA) of 2017, and to carry back NOLs to offset prior year income for five years. These were temporary provisions that applied to NOLs incurred in 2018, 2019 or 2020 tax years. We recognized a tax benefit of $5.2 million for the year ended December 31, 2021 and $14.4 million for the year ended December 31, 2020 related to our ability to carry back prior year losses under the CARES Act to years with the previous 35% tax rate. We received income tax refunds of approximately $5.4 million, $6.0 million, and $31.0 million in 2022, 2021, and 2020, respectively, as a result of these provisions of the CARES Act.
- The ability to defer the payment of the employer portion of social security taxes incurred between March 27, 2020 and December 31, 2020, with 50% of the deferred amount paid by December 31, 2021 and the remaining 50% paid by December 31, 2022. In both the years ended December 31, 2022 and December 31, 2021, we paid $7.6 million of deferred social security taxes.

## 2. RESTRUCTURING AND ACQUISITION-RELATED COSTS

In the first quarter of 2020, we initiated a global restructuring program (the 2020 Program). The primary objectives of the 2020 Program are to achieve efficiencies within our corporate and business unit support teams to reduce cost in our business, and to structurally adjust our operations to a new level of market demand based on the impact of COVID-19. We expect to incur costs under the 2020 Program into 2023.

In 2021, we completed our acquisition of a manufacturing facility in Emporium, Pennsylvania (Emporium), and subsequently determined that we will cease production at the facility and relocate the production capacity to other AAM manufacturing facilities. As a result, we have incurred restructuring charges related to the anticipated closure of the facility, and expect to incur costs associated with the closure of the facility through the first half of 2023.

In 2022, we completed our acquisition of Tekfor Group (Tekfor) and we expect to initiate certain restructuring actions associated with the acquired entities in 2023.

A summary of our restructuring activity for the years 2022, 2021 and 2020 is shown below:

| | Severance Charges | Implementation Costs | Total |
|---|---|---|---|
| | | *(in millions)* | |
| **Accrual at January 1, 2020** | $ 4.8 | $ 7.4 | $ 12.2 |
| Charges | 22.3 | 36.1 | 58.4 |
| Cash utilization | (25.4) | (33.7) | (59.1) |
| **Accrual at December 31, 2020** | 1.7 | 9.8 | 11.5 |
| Charges | 2.9 | 40.3 | 43.2 |
| Cash utilization | (3.9) | (47.4) | (51.3) |
| **Accrual at December 31, 2021** | 0.7 | 2.7 | 3.4 |
| Charges | **3.5** | **18.2** | **21.7** |
| Cash utilization | **(1.8)** | **(19.5)** | **(21.3)** |
| **Accrual at December 31, 2022** | **$ 2.4** | **$ 1.4** | **$ 3.8** |

As part of our restructuring actions during 2022, we incurred severance charges of approximately $3.5 million, as well as implementation costs, consisting primarily of plant exit costs and professional fees, of approximately $18.2 million. We incurred $13.3 million of restructuring costs in 2022 under the 2020 Program, and incurred $8.4 million of costs associated with the anticipated closure of Emporium. We have incurred $100.6 million of total restructuring costs under the 2020 Program since inception.

Approximately $1.6 million and $14.3 million of our total restructuring costs in 2022 related to our Driveline and Metal Forming segments, respectively, while the remainder were corporate costs.

In 2021, we incurred severance charges of approximately $2.9 million, as well as implementation costs, consisting primarily of plant exit costs and professional fees, of approximately $40.3 million. Approximately $4.7 million and $6.5 million of our total restructuring costs in 2021 related to our Driveline and Metal Forming segments, respectively, while the remainder were corporate costs.

In 2020, we incurred severance charges of approximately $22.3 million, as well as implementation costs, consisting primarily of plant exit costs and professional fees, of approximately $36.1 million. Approximately $19.3 million and $16.0 million of our total restructuring costs in 2020 related to our Driveline and Metal Forming segments, respectively, while the remainder were corporate costs.

We expect to incur approximately $10 million to $20 million of total restructuring charges in 2023 as we begin restructuring actions associated with Tekfor and conclude our restructuring actions associated with the 2020 Program and Emporium.

In 2022 and 2021, we incurred acquisition and integration costs associated with our acquisitions of Tekfor and Emporium. Additionally, in 2021 and 2020, we incurred the remaining integration costs associated with our 2017 acquisition of MPG. The following table represents a summary of charges incurred in 2022, 2021 and 2020 associated with acquisition and integration costs:

| | Acquisition-Related Costs | Integration Expenses | Total |
|---|---|---|---|
| | | *(in millions)* | |
| 2022 Charges | **$ 6.0** | **$ 2.5** | **$ 8.5** |
| 2021 Charges | 0.4 | 5.8 | 6.2 |
| 2020 Charges | — | 8.8 | 8.8 |

Acquisition-related costs primarily consist of advisory, legal, accounting, valuation and certain other professional or consulting fees incurred. Integration expenses primarily reflect costs incurred for information technology infrastructure and enterprise resource planning systems, and consulting fees incurred in conjunction with integration activities.

Total restructuring charges and acquisition-related charges of $30.2 million, $49.4 million and $67.2 million are shown on a separate line item titled "Restructuring and Acquisition-Related Costs" in our Consolidated Statements of Operations for 2022, 2021 and 2020, respectively.

## 3. GOODWILL AND OTHER INTANGIBLE ASSETS

**Goodwill** The following table provides a reconciliation of changes in goodwill for the year ended December 31, 2022 and the year ended December 31, 2021:

| | Consolidated |
|---|---|
| | *(in millions)* |
| Balance as of January 1, 2021 | $ 185.7 |
| Foreign currency translation | (1.9) |
| Balance as of December 31, 2021 | $ 183.8 |
| Foreign currency translation | **(2.2)** |
| Balance as of December 31, 2022 | **$ 181.6** |

We conduct our annual goodwill impairment test in the fourth quarter of each year, as well as whenever adverse events or changes in circumstances indicate a possible impairment. In performing this test, we utilize a third-party valuation specialist to assist management in determining the fair value of our reporting units. Fair value of each reporting unit is estimated based on a combination of discounted cash flows and the use of pricing multiples derived from an analysis of comparable public companies multiplied against historical and/or anticipated financial metrics of each reporting unit. These calculations contain uncertainties as they require management to make assumptions including, but not limited to, market comparables, future cash flows of the reporting units, and appropriate discount and long-term growth rates. This fair value determination is categorized as Level 3 within the fair value hierarchy. We completed our annual goodwill impairment test for our Driveline reporting unit in the fourth quarter of 2022 and no impairment was identified.

In the first quarter of 2020, the reduction in global automotive production volumes caused by the impact of COVID-19 represented an indicator to test our goodwill for impairment. This reduction in production volumes began in March of 2020 and resulted in lower forecasted sales volumes in the periods included in our long-range plan as revised in the first quarter of 2020. As a result of this goodwill impairment test in the first quarter of 2020, we determined that the carrying values of both our Driveline and Metal Forming reporting units were greater than their respective fair values. As such, we recorded a goodwill impairment charge of $510.0 million in the first quarter of 2020, of which $210.8 million was associated with our Driveline reporting unit and $299.2 million was associated with our Metal Forming reporting unit. The Metal Forming impairment charge represented a full impairment of the goodwill associated with that reporting unit. As a result, all remaining goodwill is attributable to our Driveline reporting unit.

These impairment charges were primarily the result of a decline in the projected cash flows of these reporting units under our revised long-range plan completed in the first quarter of 2020. The revision to our long-range plan was driven by lower forecasted sales volumes in the internal and external data sources used to form our projections primarily due to the reduction in global automotive production volumes caused by the impact of COVID-19. The impairment charges were also the result of changes in certain market-related inputs to the analysis to reflect macro-economic changes caused by the impact of COVID-19, including increased discount rates and lower pricing multiples for comparable public companies. At December 31, 2022, accumulated goodwill impairment losses were $1,435.5 million.

The reduction in production volumes and changes to macro-economic factors caused by the impact of COVID-19 also represented an indicator to test our long-lived assets, including other intangible assets and property, plant and equipment, for impairment. We completed this test in the first quarter of 2020 and there was no impairment of these assets.

**Other Intangible Assets** The following table provides a reconciliation of the gross carrying amount and associated accumulated amortization for AAM's other intangible assets, which are all subject to amortization, as of December 31, 2022 and December 31, 2021:

| | December 31, 2022 | | | December 31, 2021 | | |
|---|---|---|---|---|---|---|
| | Gross Carrying Amount | Accumulated Amortization | Net Carrying Amount | Gross Carrying Amount | Accumulated Amortization | Net Carrying Amount |
| | | | *(in millions)* | | | |
| Capitalized computer software | **$ 52.2** | **$ (43.2)** | **$ 9.0** | $ 47.3 | $ (37.0) | $ 10.3 |
| Customer platforms | **856.2** | **(364.7)** | **491.5** | 856.2 | (301.3) | 554.9 |
| Customer relationships | **53.0** | **(19.7)** | **33.3** | 53.0 | (16.2) | 36.8 |
| Technology and other | **154.1** | **(71.7)** | **82.4** | 156.1 | (60.9) | 95.2 |
| **Total** | **$ 1,115.5** | **$ (499.3)** | **$ 616.2** | $ 1,112.6 | $ (415.4) | $ 697.2 |

Amortization expense for our intangible assets was $85.7 million for the year ended December 31, 2022, $85.8 million for the year ended December 31, 2021, and $86.6 million for the year ended December 31, 2020. Amortization expense for the years 2023 through 2027 is expected to be in the range of approximately $80 million to $85 million per year.

## 4. LONG-TERM DEBT

Long-term debt, net consists of the following:

| | December 31, | |
|---|---|---|
| | 2022 | 2021 |
| | *(in millions)* | |
| Revolving credit facility | **$ 25.0** | $ — |
| Term Loan A Facility | **520.0** | 301.8 |
| Term Loan B Facility | **675.0** | 850.0 |
| 6.875% Notes due 2028 | **400.0** | 400.0 |
| 6.50% Notes due 2027 | **500.0** | 500.0 |
| 6.25% Notes due 2026 | **180.0** | 400.0 |
| 5.00% Notes due 2029 | **600.0** | 600.0 |
| Foreign credit facilities | **72.7** | 86.1 |
| Total debt | **2,972.7** | 3,137.9 |
| Less: Current portion of long-term debt | **75.9** | 18.8 |
| Long-term debt | **2,896.8** | 3,119.1 |
| Less: Debt issuance costs | **51.7** | 33.4 |
| Long-term debt, net | **$ 2,845.1** | $ 3,085.7 |

**SENIOR SECURED CREDIT FACILITIES** In 2017, Holdings and American Axle & Manufacturing, Inc. (AAM Inc.) entered into a credit agreement, including a term loan A facility (the Term Loan A Facility), term loan B facility (the Term Loan B Facility) and a multi-currency revolving credit facility (the Revolving Credit Facility), which was amended on July 29, 2019, April 28, 2020 and on June 11, 2021 (the Credit Agreement). In connection with the Credit Agreement, Holdings, AAM, Inc. and certain of their restricted subsidiaries entered into a collateral agreement and guarantee agreement with the financial institutions party thereto.

In March 2022, Holdings and AAM, Inc. entered into an Amended and Restated Credit Agreement. The Amended and Restated Credit Agreement, among other things, increased the principal amount of the Term Loan A Facility to $520.0 million, extended the maturity date of the Term Loan A Facility and the Revolving Credit Facility each to March 11, 2027, and established the use under the Term Loan A Facility and Revolving Credit Facility of the Secured Overnight Financing Rate (SOFR) and the minimum Adjusted Term SOFR Rate for Eurodollar-based loans denominated in U.S. Dollars and the Sterling Overnight Index Average (SONIA) and the minimum adjusted daily simple SONIA for loans denominated in Sterling. The Amended and Restated Credit Agreement includes customary covenants, including a total net leverage ratio covenant, a cash interest expense coverage ratio covenant, and certain covenants restricting the ability of Holdings, AAM and certain subsidiaries of Holdings to create, incur, assume or permit to exist certain additional indebtedness and liens, to make investments and to make or agree to pay or make certain restricted payments, voluntary payments and distributions. We expensed $0.2 million of debt refinancing costs, paid accrued interest of $1.0 million, and paid debt issuance costs of $4.5 million in 2022 related to the Amended and Restated Credit Agreement. The terms of the Term Loan B Facility, including the maturity date, interest rates and applicable margin with respect to such interest rates, were not changed by the Amended and Restated Credit Agreement.

In December 2022, Holdings and AAM, Inc. entered into the refinancing facility agreement No.1 (the Refinancing Facility Agreement), under the Amended and Restated Credit Agreement and established a new Term Loan B Facility of $675.0 million. The proceeds from the Refinancing Facility Agreement, together with $50.0 million cash on hand and the proceeds of a $25.0 million borrowing under the Revolving Credit Facility, were used to (a) prepay the entire principal amount of the then outstanding Term Loan B Facility, (b) pay all accrued and unpaid interest due under the Term Loan B Facility and (c) pay fees, costs and expenses payable in connection with the refinancing of the Term Loan B Facility. The new Term Loan B Facility will mature on December 13, 2029 (TLB Maturity), subject to a springing maturity that will apply if on any date prior to the TLB Maturity any of AAM's senior notes exceed $250 million outstanding within 91 days of the maturity date of such senior notes. Additionally, the Refinancing Facility Agreement, among other things, established the use under the Term Loan B Facility of SOFR

and the minimum adjusted Term SOFR Rate and a new applicable margin. We expensed $0.4 million of debt refinancing costs, paid accrued interest of $2.4 million, and paid debt issuance costs of $26.9 million related to the Refinancing Facility Agreement. The terms of the Term Loan A Facility and the Revolving Credit Facility under the Amended and Restated Credit Agreement, including the maturity dates, interest rates and applicable margins with respect to such interest rates, were not changed by the Refinancing Facility Agreement.

In 2022, prior to entering into the Refinancing Facility Agreement, we made voluntary prepayments totaling $100.0 million on our then outstanding term loan B facility. As a result, we expensed approximately $0.6 million for the write-off of a portion of the unamortized debt issuance costs that we had been amortizing over the expected life of this borrowing.

In 2021, we made voluntary prepayments totaling $21.2 million on our Term Loan A Facility and $238.8 million on our Term Loan B Facility. As a result, we expensed approximately $2.5 million for the write-off of a portion of the unamortized debt issuance costs that we had been amortizing over the expected life of these borrowings.

In December 2020, we made a voluntary prepayment of $100.0 million on our Term Loan B Facility and paid approximately $15.0 million on our Term Loan A Facility. As a result, we expensed approximately $1.2 million for the write-off of a portion of the unamortized debt issuance costs that we had been amortizing over the life of these borrowings.

At December 31, 2022, $865.9 million was available under the Revolving Credit Facility. This availability reflects a reduction of $34.1 million for standby letters of credit issued against the facility. The proceeds of the Revolving Credit Facility are used for general corporate purposes.

The Revolving Credit Facility, the Term Loan A Facility and the Term Loan B Facility (collectively, the Senior Secured Credit Facilities) provide back-up liquidity for our foreign credit facilities. We intend to use the availability of long-term financing under the Senior Secured Credit Facilities to refinance any current maturities related to such debt agreements that are not otherwise refinanced on a long-term basis in their local markets, except where otherwise reclassified to Current portion of long-term debt on our Consolidated Balance Sheet.

**REDEMPTION OF 6.25% NOTES DUE 2026** In the first quarter of 2022, we used the proceeds from the upsized Term Loan A Facility to voluntarily redeem a portion of our 6.25% Notes due 2026. This resulted in a principal payment of $220.0 million and $0.2 million in accrued interest. We also expensed approximately $1.8 million for the write-off of a portion of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing, and approximately $3.4 million for the payment of an early redemption premium.

**5.00% NOTES DUE 2029** In the third quarter of 2021, we issued $600.0 million in aggregate principal amount of 5.00% Notes due 2029 (the 5.00% Notes). Proceeds from the 5.00% Notes were used to fund a portion of the redemption of the 6.25% Notes due 2025 described below. We paid debt issuance costs of $9.2 million in the twelve months ended December 31, 2021 related to the 5.00% Notes.

**REDEMPTION OF 6.25% NOTES DUE 2025** In 2021, we voluntarily redeemed our 6.25% Notes due 2025. This resulted in principal payments totaling $700.0 million and $19.4 million in accrued interest. We also expensed approximately $9.6 million for the write-off of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing, and approximately $21.9 million for the payment of an early redemption premium.

**6.875% NOTES DUE 2028** In 2020, we issued $400.0 million in aggregate principal amount of 6.875% Notes due 2028 (the 6.875% Notes). Proceeds from the 6.875% Notes were used primarily to fund a portion of the redemption of the 6.625% Notes due 2022 described below and for general corporate purposes. We paid debt issuance costs of $6.4 million in the year ended December 31, 2020 related to the 6.875% Notes.

**REDEMPTION OF 6.625% NOTES DUE 2022** In 2020, we voluntarily redeemed the remaining amount outstanding under our 6.625% Notes due 2022. This resulted in principal payments totaling $450.0 million and $7.7 million in accrued interest. We also expensed approximately $1.7 million for the write-off of the unamortized debt issuance costs that we had been amortizing over the expected life of the borrowing, and approximately $5.0 million for an early redemption premium.

**REPAYMENT OF TEKFOR GROUP INDEBTEDNESS** Upon the acquisition of Tekfor, we assumed $23.4 million of existing Tekfor indebtedness, of which we repaid $10.7 million in 2022.

**FOREIGN CREDIT FACILITIES** We utilize local currency credit facilities to finance the operations of certain foreign subsidiaries. These credit facilities, some of which are guaranteed by Holdings and/or AAM, Inc., expire at various dates through September 2028. At December 31, 2022, $72.7 million was outstanding under our foreign credit facilities and an additional $57.8 million was available. At December 31, 2021, $86.1 million was outstanding under these facilities and an additional $65.1 million was available.

**DEBT MATURITIES** Aggregate maturities of long-term debt are as follows *(in millions)*:

| | | |
|---|---|---|
| 2023 | $ | 102.3 |
| 2024 | | 36.5 |
| 2025 | | 42.5 |
| 2026 | | 235.5 |
| 2027 | | 909.8 |
| Thereafter | | 1,646.1 |
| Total | $ | 2,972.7 |

**INTEREST EXPENSE AND INTEREST INCOME** Interest expense was $174.5 million in 2022, $195.2 million in 2021 and $212.3 million in 2020.

We capitalized interest of $6.6 million in 2022, $6.2 million in 2021 and $7.9 million in 2020. The weighted-average interest rate of our long-term debt outstanding at December 31, 2022 was 6.6%, as compared to 5.6% and 5.8% at December 31, 2021 and December 31, 2020, respectively.

Interest income was $17.0 million in 2022, $10.9 million in 2021 and $11.6 million in 2020. Interest income primarily includes interest earned on cash and cash equivalents, realized and unrealized gains and losses on our short-term investments during the period, and the deferred payment obligation associated with the sale of our former Casting segment, as well as the impact of the interest rate differential on our fixed-to-fixed cross-currency swap.

## 5. DERIVATIVES AND RISK MANAGEMENT

**DERIVATIVE FINANCIAL INSTRUMENTS** In the normal course of business, we are exposed to market risk associated with changes in foreign currency exchange rates and interest rates. To manage a portion of these inherent risks, we may purchase certain types of derivative financial instruments based on management's judgment of the trade-off between risk, opportunity and cost. We do not hold or issue derivative financial instruments for trading or speculative purposes. The impact of hedge ineffectiveness was not significant in any of the periods presented.

**CURRENCY DERIVATIVE CONTRACTS** From time to time, we use foreign currency forward contracts to reduce the effects of fluctuations in exchange rates relating to certain foreign currencies. As of December 31, 2022 and December 31, 2021, we had currency forward contracts outstanding with a total notional amount of $179.9 million and $164.7 million, respectively, that hedge our exposure to changes in foreign currency exchange rates for certain payroll expenses into the third quarter of 2025 and the purchase of certain direct and indirect inventory and other working capital items into the fourth quarter of 2023.

**FIXED-TO-FIXED CROSS-CURRENCY SWAP** In 2020, we entered into a fixed-to-fixed cross-currency swap to reduce the variability of functional currency equivalent cash flows associated with changes in exchange rates on certain Euro-based intercompany loans. In the second quarter of 2022, we discontinued this fixed-to-fixed cross-currency swap, which was in an asset position of $9.7 million on the date that it was discontinued.

Also in the second quarter of 2022, we entered into a new fixed-to-fixed cross-currency swap to reduce the variability of functional currency equivalent cash flows associated with changes in exchange rates on certain Euro-based intercompany loans. We had notional amounts outstanding under the fixed-to fixed cross-currency swap of €200.0 million at both December 31, 2022 and December 31, 2021, which was equivalent to $213.9 million and $226.9 million, respectively. The fixed-to-fixed cross-currency swap hedges our exposure to changes in exchange rates on the intercompany loans into the second quarter of 2024.

**VARIABLE-TO-FIXED INTEREST RATE SWAP** In 2019, we entered into a variable-to-fixed interest rate swap to reduce the variability of cash flows associated with interest payments on our variable rate debt. In the second quarter of 2022, we discontinued this variable-to-fixed interest rate swap, which was in an asset position of $6.1 million on the date that it was discontinued.

Also in the second quarter of 2022, we entered into a new variable-to-fixed interest rate swap to reduce the variability of cash flows associated with interest payments on our variable rate debt. As of December 31, 2022, we have $500.0 million notional amount hedged in relation to our variable-to-fixed interest rate swap into the third quarter of 2027.

The following table summarizes the reclassification of pre-tax derivative gains and losses into net income (loss) from accumulated other comprehensive income (loss) for those derivative instruments designated as cash flow hedges under Accounting Standards Codification (ASC) 815 - Derivatives and Hedging:

| | Location of Gain (Loss) Reclassified into Net Income (Loss) | Gain (Loss) Reclassified During the Twelve Months Ended December 31, | | | Total of Financial Statement Line Item | Gain Expected to be Reclassified During the Next 12 Months |
|---|---|---|---|---|---|---|
| | | 2022 | 2021 | 2020 | 2022 | |
| | | *(in millions)* | | | | |
| Currency forward contracts | Cost of Goods Sold | **$ 6.5** | $ 5.6 | $ (2.9) | $ 5,097.5 | $ 8.2 |
| Fixed-to-fixed cross-currency swap | Other Expense, net | **13.7** | 19.0 | (18.7) | (1.8) | 0.3 |
| Variable-to-fixed interest rate swap | Interest Expense | **2.7** | (14.8) | (14.2) | (174.5) | 2.4 |

See Note 12 - Reclassifications Out of Accumulated Other Comprehensive Income (Loss) for amounts recognized in Accumulated other comprehensive income (loss) during the years ended December 31, 2022, December 31, 2021 and December 31, 2020.

The following table summarizes the amount and location of gains (losses) recognized in the Consolidated Statements of Operations for those derivative instruments not designated as hedging instruments under ASC 815:

| | Location of Gain (Loss) Recognized in Net Income (Loss) | Gain (Loss) Recognized During the Twelve Months Ended December 31, | | | Total of Financial Statement Line Item |
|---|---|---|---|---|---|
| | | 2022 | 2021 | 2020 | 2022 |
| | | *(in millions)* | | | |
| Currency forward contracts | Cost of Goods Sold | **$ —** | $ — | $ (6.7) | $ 5,097.5 |
| Currency forward contracts | Other Expense, Net | **2.5** | 0.2 | 0.6 | (1.8) |

**CONCENTRATIONS OF CREDIT RISK** In the normal course of business, we provide credit to customers. We periodically evaluate the creditworthiness of our customers and we maintain reserves for potential credit losses.

Sales to General Motors Company (GM) were approximately 40% of our consolidated net sales in 2022, 37% in 2021, and 39% in 2020. Accounts and other receivables due from GM were $334.4 million at year-end 2022 and $290.2 million at year-end 2021. Sales to Stellantis N.V. (Stellantis), were approximately 18% of our consolidated net sales in 2022, and 19% in both 2021 and 2020. Accounts and other receivables due from Stellantis were $115.3 million at year-end 2022 and $137.1 million at year-end 2021. Sales to Ford Motor Company (Ford) were approximately 12% of our consolidated net sales in 2022, 2021 and 2020. Accounts and other receivables due from Ford were $101.7 million at year-end 2022 and $108.8 million at year end 2021. No other single customer accounted for more than 10% of our consolidated net sales in any year presented.

In addition, our total GM postretirement cost sharing asset was $138.2 million as of December 31, 2022 and $213.2 million as of December 31, 2021. See Note 7 - Employee Benefit Plans for more detail on this cost sharing asset.

We diversify the concentration of invested cash and cash equivalents among different financial institutions and we monitor the selection of counterparties to other financial instruments to avoid unnecessary concentrations of credit risk.

## 6. FAIR VALUE

ASC 820 - *Fair Value Measurement* defines fair value as "the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date." The definition is based on an exit price rather than an entry price, regardless of whether the entity plans to hold or sell the asset. This guidance also establishes a fair value hierarchy to prioritize inputs used in measuring fair value as follows:

- Level 1: Observable inputs such as quoted prices in active markets;
- Level 2: Inputs, other than quoted prices in active markets, that are observable either directly or indirectly; and
- Level 3: Unobservable inputs in which there is little or no market data, which require the reporting entity to develop its own assumptions.

**FINANCIAL INSTRUMENTS** The estimated fair values of our financial assets and liabilities that are recognized at fair value on a recurring basis, using available market information and other observable data are as follows:

| | Fair Value | | |
|---|---|---|---|
| | **December 31, 2022** | **December 31, 2021** | **Input** |
| | *(in millions)* | | |
| **Balance Sheet Classification** | | | |
| Cash equivalents | **$ 363.6** | $ 196.5 | Level 1 |
| Prepaid expenses and other | | | |
| Cash flow hedges - currency forward contracts | **8.2** | 2.2 | Level 2 |
| Cash flow hedges - variable-to-fixed interest rate swap | **2.4** | 1.9 | Level 2 |
| Nondesignated - currency forward contracts | **0.5** | 0.2 | Level 2 |
| Other assets and deferred charges | | | |
| Cash flow hedges - currency forward contracts | **3.0** | 1.4 | Level 2 |
| Cash flow hedges - variable-to-fixed interest rate swap | **8.5** | 2.2 | Level 2 |
| Investment in equity securities | **1.9** | 27.4 | Level 1 |
| Accrued expenses and other | | | |
| Cash flow hedges - currency forward contracts | **—** | 0.3 | Level 2 |
| Cash flow hedges - variable-to-fixed interest rate swap | **—** | 9.6 | Level 2 |
| Postretirement benefits and other long-term liabilities | | | |
| Cash flow hedges - currency forward contracts | **—** | 0.6 | Level 2 |
| Cash flow hedges - fixed-to-fixed cross-currency swap | **1.5** | 3.7 | Level 2 |
| Cash flow hedges - variable-to-fixed interest rate swap | **—** | 12.7 | Level 2 |

The carrying values of our cash, accounts receivable, accounts payable and accrued liabilities approximate their fair values due to the short-term maturities of these instruments. The carrying values of our borrowings under the foreign credit facilities approximate their fair values due to the frequent resetting of the interest rates.

We have an investment in the equity securities of REE Automotive, an e-mobility company. These equity securities are measured at fair value each reporting period with changes in fair value reported through an unrealized gain or loss within Other income (expense), net in our Consolidated Statements of Operations. As of December 31, 2022, our investment in REE shares was valued at $1.9 million based on a closing price on that date of $0.39 per share.

We estimated the fair value of our outstanding debt using available market information and other observable data to be as follows:

| | December 31, 2022 | | December 31, 2021 | | |
|---|---|---|---|---|---|
| | Carrying Amount | Fair Value | Carrying Amount | Fair Value | Input |
| | *(in millions)* | | | | |
| Revolving Credit Facility | **$ 25.0** | **$ 25.0** | $ — | $ — | Level 2 |
| Term Loan A Facility | **520.0** | **510.3** | 301.8 | 301.8 | Level 2 |
| Term Loan B Facility | **675.0** | **658.1** | 850.0 | 847.9 | Level 2 |
| 6.875% Notes due 2028 | **400.0** | **355.4** | 400.0 | 430.0 | Level 2 |
| 6.50% Notes due 2027 | **500.0** | **452.5** | 500.0 | 519.4 | Level 2 |
| 6.25% Notes due 2026 | **180.0** | **165.7** | 400.0 | 408.5 | Level 2 |
| 5.00% Notes due 2029 | **600.0** | **474.9** | 600.0 | 588.0 | Level 2 |

Investments in our defined benefit pension plans are stated at fair value. See Note 7 - Employee Benefit Plans for additional fair value disclosures of our pension plan assets.

## 7. EMPLOYEE BENEFIT PLANS

**PENSION AND OTHER POSTRETIREMENT DEFINED BENEFIT PLANS** We sponsor various qualified and non-qualified defined benefit pension plans for our eligible associates. We also maintain hourly and salaried benefit plans that provide postretirement medical, dental, vision and life insurance benefits (OPEB) to our eligible retirees and their dependents in the U.S.

Actuarial valuations of our benefit plans were made as of December 31, 2022 and 2021. The primary weighted-average assumptions used in the year-end valuation of our principal plans appear in the following table. The U.S. discount rates are based on an actuarial review of a hypothetical portfolio of long-term, high quality corporate bonds matched against the expected payment stream for each of our plans. The discount rates for the non-U.S. plans are based on hypothetical yield curves developed from corporate bond yield information within each regional market. The assumptions for expected return on plan assets are based on future capital market expectations for the asset classes represented within our portfolios and a review of long-term historical returns. The rates of increase in compensation and health care costs are based on current market conditions, inflationary expectations and historical information.

| | Pension Benefits | | | | | | OPEB | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2022 | | 2021 | | 2020 | | 2022 | 2021 | 2020 |
| | U.S. | Non-U.S. | U.S. | Non-U.S. | U.S. | Non-U.S. | | | |
| Discount rate | **5.50 %** | **4.40 %** | 2.90 % | 1.85 % | 2.50 % | 1.55 % | **5.50 %** | 2.90 % | 2.55 % |
| Expected return on plan assets | **6.75 %** | **4.00 %** | 7.00 % | 4.00 % | 7.25 % | 4.00 % | **N/A** | N/A | N/A |
| Rate of compensation increase | **N/A** | **3.25 %** | N/A | 3.70 % | N/A | 3.15 % | **4.00 %** | 4.00 % | 4.00 % |

The accumulated benefit obligation for all defined benefit pension plans was $481.8 million and $672.4 million at December 31, 2022 and December 31, 2021, respectively. As of December 31, 2022, the accumulated benefit obligation for our underfunded defined benefit pension plans was $381.9 million, the projected benefit obligation was $381.9 million and the fair value of assets for these plans was $301.2 million.

Certain eligible retirees under our OPEB plans have past service with both AAM and GM. AAM and GM share proportionally in the cost of OPEB for these retirees based on the length of service an employee had with AAM and GM. We have included in our OPEB obligation the amounts expected to be received from GM pursuant to this agreement of $138.2 million and $213.2 million at December 31, 2022 and December 31, 2021, respectively. We have also recorded a corresponding asset for these amounts on our Consolidated Balance Sheets, $10.6 million that is classified as a current asset and $127.6 million that is classified as a noncurrent asset as of December 31, 2022.

The following table summarizes the changes in projected benefit obligations and plan assets and reconciles the funded status of the benefit plans, which is the net benefit plan liability:

| | Pension Benefits | | OPEB | |
|---|---|---|---|---|
| | December 31, | | December 31, | |
| | 2022 | 2021 | 2022 | 2021 |
| | *(in millions)* | | | |
| **Change in benefit obligation** | | | | |
| Benefit obligation at beginning of year | **$ 674.1** | $ 798.9 | **$ 509.6** | $ 586.5 |
| Service cost | **1.7** | 2.0 | **0.3** | 0.3 |
| Interest cost | **16.5** | 17.3 | **8.4** | 8.4 |
| Plan amendments | **—** | — | **(0.5)** | — |
| Actuarial gain | **(175.9)** | (6.5) | **(101.3)** | (34.6) |
| Change in GM portion of OPEB obligation | **—** | — | **(75.0)** | (36.8) |
| Participant contributions | **0.2** | 0.2 | **—** | — |
| Settlements | **—** | (99.0) | **—** | — |
| Benefit payments | **(27.4)** | (34.4) | **(11.9)** | (14.2) |
| Tekfor acquisition | **14.3** | — | **—** | — |
| Currency fluctuations | **(21.1)** | (4.4) | **—** | — |
| Net change | **(191.7)** | (124.8) | **(180.0)** | (76.9) |
| Benefit obligation at end of year | **$ 482.4** | $ 674.1 | **$ 329.6** | $ 509.6 |
| | | | | |
| **Change in plan assets** | | | | |
| Fair value of plan assets at beginning of year | **$ 573.8** | $ 669.9 | **$ —** | $ — |
| Actual return on plan assets | **(127.1)** | 31.6 | **—** | — |
| Employer contributions | **2.5** | 7.8 | **11.9** | 14.2 |
| Participant contributions | **0.2** | 0.2 | **—** | — |
| Benefit payments | **(27.4)** | (34.4) | **(11.9)** | (14.2) |
| Settlements | **—** | (99.0) | **—** | — |
| Tekfor acquisition | **7.5** | — | **—** | — |
| Currency fluctuations | **(22.6)** | (2.3) | **—** | — |
| Net change | **(166.9)** | (96.1) | **—** | — |
| Fair value of plan assets at end of year | **$ 406.9** | $ 573.8 | **$ —** | $ — |

Amounts recognized in our Consolidated Balance Sheets are as follows:

| | Pension Benefits | | OPEB | |
|---|---|---|---|---|
| | December 31, | | December 31, | |
| | 2022 | 2021 | 2022 | 2021 |
| | *(in millions)* | | | |
| Noncurrent assets | **$ 5.1** | $ 27.6 | **$ —** | $ — |
| Current liabilities | **(7.1)** | (6.6) | **(24.8)** | (28.4) |
| Noncurrent liabilities | **(73.5)** | (121.3) | **(304.8)** | (481.2) |
| Net liability | **$ (75.5)** | $ (100.3) | **$ (329.6)** | $ (509.6) |

Pre-tax amounts recorded in accumulated other comprehensive income (loss) (AOCI), not yet recognized in net periodic benefit cost (credit) as of December 31, 2022 and 2021, consists of:

| | Pension Benefits | | OPEB | |
|---|---|---|---|---|
| | December 31, | | December 31, | |
| | 2022 | 2021 | 2022 | 2021 |
| | *(in millions)* | | | |
| Net actuarial gain (loss) | **$ (200.0)** | $ (225.4) | **$ 133.1** | $ 31.3 |
| Net prior service credit (cost) | **(1.5)** | (1.6) | **1.2** | 1.6 |
| Total amounts recorded | **$ (201.5)** | $ (227.0) | **$ 134.3** | $ 32.9 |

The decrease in net actuarial loss for pension benefits was primarily attributable to the reduction of our pension liabilities as a result of increased discount rates used in the valuation at December 31, 2022, as compared to prior year, and the impact of amortization of prior actuarial losses, partially offset by the loss on plan assets incurred during 2022. The increase in net actuarial gain for OPEB was primarily attributable to the reduction of our OPEB liabilities as a result of increased discount rates used in the valuation at December 31, 2022, as compared to prior year.

The components of net periodic benefit cost (credit) are as follows:

| | Pension Benefits | | | OPEB | | |
|---|---|---|---|---|---|---|
| | 2022 | 2021 | 2020 | 2022 | 2021 | 2020 |
| | | | *(in millions)* | | | |
| Service cost | **$ 1.7** | $ 2.0 | $ 2.0 | **$ 0.3** | $ 0.3 | $ 0.4 |
| Interest cost | **16.5** | 17.3 | 21.4 | **8.4** | 8.4 | 10.2 |
| Expected asset return | **(31.0)** | (39.0) | (38.4) | **—** | — | — |
| Amortized actuarial loss | **7.6** | 10.8 | 8.6 | **0.5** | 1.7 | 1.0 |
| Amortized prior service cost (credit) | **0.1** | 0.1 | 0.1 | **(0.9)** | (1.5) | (1.5) |
| Settlement charge | **—** | 42.3 | 0.5 | **—** | — | — |
| Net periodic benefit cost (credit) | **$ (5.1)** | $ 33.5 | $ (5.8) | **$ 8.3** | $ 8.9 | $ 10.1 |

Our postretirement cost sharing asset from GM is measured on the same basis as the portion of the obligation to which it relates. The actuarial gains and losses related to the GM portion of the OPEB obligation are recognized immediately in the Consolidated Statements of Operations as an offset against the gains and losses related to the change in the corresponding GM postretirement cost sharing asset. These items are presented net in the change in benefit obligation and net periodic benefit cost components disclosed above. Remaining actuarial gains and losses are deferred and amortized over the expected future service periods of the active participants or the remaining life expectancy of the inactive participants.

For measurement purposes, a weighted average annual increase in the per-capita cost of covered health care benefits of 6.40% was assumed for 2023. The rate was assumed to decrease gradually to 5.00% by 2030 and to remain at that level thereafter.

The expected future pension and other postretirement benefits to be paid, net of GM cost sharing, for each of the next five years and in the aggregate for the succeeding five years thereafter are as follows: $49.2 million in 2023; $47.0 million in 2024; $47.7 million in 2025; $49.7 million in 2026; $48.3 million in 2027 and $242.9 million for 2028 through 2032. These amounts were estimated using the same assumptions that were used to measure our 2022 year-end pension and OPEB obligations and include an estimate of future employee service.

**Contributions** We contributed $0.4 million to our pension trusts in 2022. Due to the availability of our pre-funded pension balances (previous contributions in excess of prior required pension contributions), we expect our regulatory pension funding requirements in 2023 to be less than $1.0 million. We expect our cash payments, net of GM cost sharing, for OPEB to be approximately $14.6 million in 2023.

**U.S. pension annuity purchase** In 2021, we purchased group annuity contracts from an insurance company to settle pension obligations for certain U.S. plan participants (Pension Annuity Purchase). The purchase of the group annuity contracts, which was paid from plan assets, irrevocably transferred the remaining future pension benefit obligations for these U.S. plan participants to the insurance company and reduced our liabilities and administrative costs going forward.

The Pension Annuity Purchase included approximately 3,400 of our U.S. pension plan participants. As a result of this settlement, we remeasured the assets and liabilities of our U.S. pension plans, which reduced our projected benefit obligation by $97.3 million and resulted in a non-cash pre-tax settlement charge of $42.3 million in the fourth quarter of 2021 related to the accelerated recognition of certain deferred losses.

**Pension plan assets** The weighted-average asset allocations of our pension plan assets at December 31, 2022 and 2021 appear in the following table. The asset allocation for our plans is developed in consideration of the demographics of the plan participants and expected payment stream of the benefit obligation.

| | U.S. | | | Non-U.S. | | |
|---|---|---|---|---|---|---|
| | 2022 | 2021 | Target Allocation | 2022 | 2021 | Target Allocation |
| Equity securities | **28.0 %** | 27.9 % | 25% - 35% | **13.5 %** | 21.6 % | 15% - 25% |
| Fixed income securities | **64.8** | 63.8 | 60% - 70% | **64.7** | 66.0 | 70% - 80% |
| Alternative assets | **6.1** | 7.5 | 0% - 10% | **15.6** | 9.9 | 5% - 15% |
| Cash | **1.1** | 0.8 | 0% - 5% | **6.2** | 2.5 | 0% - 5% |
| Total | **100.0 %** | 100.0 % | | **100.0 %** | 100.0 % | |

The primary objective of our pension plan assets is to provide a source of retirement income for participants and beneficiaries. Our primary financial objectives for the pension plan assets have been established in conjunction with a comprehensive review of our current and projected financial requirements. These objectives include having the ability to pay all future benefits and expenses when due, maintaining flexibility and minimizing volatility. These objectives are based on a long-term investment horizon.

**Defined Benefit Pension Plan Assets** Investments in our defined benefit plans are stated at fair value. Level 1 assets are valued using quoted market prices that represent the asset value of the shares held by the trusts. The level 2 assets are investments in pooled funds, which are valued using a model to reflect the valuation of their underlying assets that are publicly traded with observable values. The fair values of our pension plan assets are as follows:

| **December 31, 2022** | | | | |
|---|---|---|---|---|
| **Asset Categories** | **Level 1** | **Level 2** | **Level 3** | **Total** |
| | | *(in millions)* | | |
| **Cash and Cash Equivalents** | **$ 8.6** | **$ 1.8** | **$ —** | **$ 10.4** |
| **Equity** | | | | |
| U.S. Large Cap | **40.2** | **0.1** | **—** | **40.3** |
| U.S. Small/Mid Cap | **12.8** | **—** | **—** | **12.8** |
| World Equity | **40.7** | **3.4** | **—** | **44.1** |
| **Fixed Income Securities** | | | | |
| Government & Agencies | **57.9** | **60.0** | **—** | **117.9** |
| Corporate Bonds - Investment Grade | **123.5** | **0.5** | **—** | **124.0** |
| Corporate Bonds - Non-investment Grade | **9.0** | **0.4** | **—** | **9.4** |
| Emerging Market Debt | **8.2** | **—** | **—** | **8.2** |
| Other | **1.7** | **2.3** | **—** | **4.0** |
| **Other** | | | | |
| Property Funds [(a)] | **—** | **—** | **—** | **24.9** |
| Other [(a)] | **—** | **—** | **—** | **10.9** |
| **Total Plan Assets** | **$ 302.6** | **$ 68.5** | **$ —** | **$ 406.9** |

| **December 31, 2021** | | | | |
|---|---|---|---|---|
| **Asset Categories** | **Level 1** | **Level 2** | **Level 3** | **Total** |
| | | *(in millions)* | | |
| **Cash and Cash Equivalents** | $ 7.8 | $ 0.8 | $ — | $ 8.6 |
| **Equity** | | | | |
| U.S. Large Cap | 54.0 | 0.1 | — | 54.1 |
| U.S. Small/Mid Cap | 15.2 | — | — | 15.2 |
| World Equity | 66.9 | 10.7 | — | 77.6 |
| **Fixed Income Securities** | | | | |
| Government & Agencies | 80.2 | 52.7 | — | 132.9 |
| Corporate Bonds - Investment Grade | 189.9 | 1.3 | — | 191.2 |
| Corporate Bonds - Non-investment Grade | 15.7 | 0.5 | — | 16.2 |
| Emerging Market Debt | 12.5 | — | — | 12.5 |
| Other | 11.2 | 5.8 | — | 17.0 |
| **Other** | | | | |
| Property Funds [(a)] | — | — | — | 38.2 |
| Other [(a)] | — | — | — | 10.3 |
| **Total Plan Assets** | $ 453.4 | $ 71.9 | $ — | $ 573.8 |

*(a) In accordance with ASC 820 - Fair Value Measurement certain investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the Consolidated Balance Sheets.*

**DEFINED CONTRIBUTION PLANS** Most of our salaried and hourly U.S. associates, including certain UAW represented associates at our U.S. locations, are eligible to participate in voluntary savings plans. Our maximum match is 50% of eligible associates' contribution up to 10% of their eligible salary. Matching contributions amounted to $8.6 million in 2022, $8.0 million in 2021 and $7.9 million in 2020. Certain U.S. associates are eligible annually to receive an additional AAM Retirement Contribution (ARC) benefit between 3% to 5% of eligible salary, depending on years of service. We made ARC contributions of $9.0 million, $8.3 million and $8.0 million in 2022, 2021 and 2020, respectively.

## 8. STOCK-BASED COMPENSATION AND OTHER INCENTIVE COMPENSATION

### *STOCK-BASED COMPENSATION*

At December 31, 2022, we had stock-based awards outstanding under stock compensation plans approved by our stockholders. Under these plans, shares have been authorized for issuance to our directors, officers and certain other associates in the form of unvested restricted stock units, performance shares or other awards that are based on the value of our common stock. Shares available for future grants at December 31, 2022 were 6.0 million. The current stock plan will expire in May 2028.

**RESTRICTED STOCK UNITS** We have awarded restricted stock units (RSUs). Compensation expense associated with RSUs settled in stock is recorded to paid-in-capital ratably over the three-year vesting period.

The following table summarizes activity relating to our RSUs:

| | Number of Shares/Units | Weighted-Average Grant Date Fair Value per Share/Unit |
|---|---|---|
| | *(in millions, except per share data)* | |
| **Outstanding at January 1, 2020** | 3.1 | $ 16.03 |
| Granted | 3.2 | 5.08 |
| Vested | (0.8) | 18.22 |
| Canceled | (0.6) | 10.33 |
| **Outstanding at December 31, 2020** | 4.9 | $ 9.20 |
| Granted | 0.9 | 10.29 |
| Vested | (1.0) | 13.65 |
| Canceled | (0.4) | 8.40 |
| **Outstanding at December 31, 2021** | 4.4 | $ 8.43 |
| Granted | **1.4** | **8.98** |
| Vested | **(0.8)** | **14.73** |
| Canceled | **(0.1)** | **6.47** |
| **Outstanding at December 31, 2022** | **4.9** | **$ 7.66** |

As of December 31, 2022, unrecognized compensation cost related to unvested RSUs totaled $11.7 million. The weighted average period over which this cost is expected to be recognized is approximately two years. In 2022 and 2021, the total fair market value of RSUs vested was $6.0 million and $10.6 million, respectively.

**PERFORMANCE SHARES** As of December 31, 2022, we have performance shares (PS) outstanding under our 2018 Omnibus Incentive Plan. We grant performance shares payable in stock to officers and certain other associates which vest in full over a three-year performance period.

In 2022 and 2021, grants to officers were based on AAM's free cash flow in each of the three years of the performance period, as well as the cumulative free cash flow over the same period, adjusted based on a total shareholder return (TSR) measure. Additionally, during 2022, grants to certain other associates were based on AAM's three-year cumulative free cash flow. In 2020, grants to officers were based on AAM's three-year cumulative free cash flow, adjusted based on a TSR measure. The TSR metric compares our TSR over the three-year performance period relative to the TSR of our pre-defined competitor peer group. Based on these free cash flow and relative TSR performance metrics, the number of performance shares that become exercisable for officers will be between 0% and 230% of the grant date amount and for other associates between 0% and 150% of the grant date amount. Share price appreciation and dividends paid are measured over the performance period to determine TSR. As these awards are settled in stock, the compensation expense is recorded ratably over the vesting period to paid-in-capital.

The following table summarizes activity relating to our performance shares:

| | Number of Shares | Weighted Average Grant Date Fair Value per Share |
|---|---|---|
| **TSR Awards** | *(in millions, except per share data)* | |
| **Outstanding at January 1, 2020** | 0.8 | $ 20.13 |
| Granted | — | — |
| Vested | (0.2) | 24.63 |
| Canceled | — | — |
| **Outstanding at December 31, 2020** | 0.6 | $ 18.86 |
| Granted | — | — |
| Vested | (0.3) | 13.91 |
| Canceled | — | — |
| **Outstanding at December 31, 2021** | 0.3 | $ 24.36 |
| Granted | **—** | **—** |
| Vested | **(0.3)** | **24.36** |
| Canceled | **—** | **—** |
| **Outstanding at December 31, 2022** | **—** | **$ —** |
| | | |
| **Free Cash Flow Awards** | | |
| **Outstanding at January 1, 2020** | 0.3 | $ 14.28 |
| Granted | 0.9 | 5.18 |
| Vested | — | — |
| Canceled | — | — |
| **Outstanding at December 31, 2020** | 1.2 | $ 7.50 |
| Granted | 0.4 | 11.26 |
| Vested | (0.3) | 14.28 |
| Canceled | (0.1) | 6.96 |
| **Outstanding at December 31, 2021** | 1.2 | $ 6.96 |
| Granted | **0.5** | **9.83** |
| Vested | **—** | **—** |
| Canceled | **(0.1)** | **9.26** |
| **Outstanding at December 31, 2022** | **1.6** | **$ 7.81** |

We estimate the fair value of our free cash flow performance shares on the date of grant using our estimated three-year cumulative free cash flow, based on AAM's budget and long-range plan assumptions at the time, and adjust quarterly as necessary. We estimate the fair value of our TSR metric on the date of grant using the Monte Carlo simulation approach. The Monte Carlo simulation approach utilizes inputs on volatility assumptions, risk free rates, the price of the Company's and our competitor peer group's common stock and their correlation as of each valuation date. Volatility assumptions are based on historical and implied volatility measurements.

Based on the current fair value, the estimated unrecognized compensation cost related to unvested PS totaled $6.0 million, as of December 31, 2022. The weighted-average period over which this cost is expected to be recognized is approximately two years.

***OTHER INCENTIVE COMPENSATION***

**LONG-TERM CASH AWARDS** As of December 31, 2022, we have long-term cash awards (LTCAs) outstanding under our 2018 Omnibus Incentive Plan. The $4.6 million and $7.8 million of LTCAs granted during 2022 and 2021 respectively, are payable in cash to certain associates which vest in full over a three-year period. Compensation expense associated with LTCAs paid in cash is recorded ratably over the three-year vesting period. As of December 31, 2022, unrecognized compensation cost related to unvested LTCAs totaled $5.6 million. The weighted average period over which this cost is expected to be recognized is approximately two years.

**PERFORMANCE UNITS** As of December 31, 2022, we have performance units (PUs) outstanding under our 2018 Omnibus Incentive Plan. We grant PUs payable in cash to officers and certain other associates which vest in full over a three-year performance period and are based primarily on AAM's three-year cumulative free cash flow. The $11.1 million, $11.7 million and $13.6 million of PUs granted during 2022, 2021 and 2020, respectively, are payable for officers between 0% and 230% of the grant date amount, inclusive of the potential impact of the TSR metric, and for other associates between 0% and 150% of the grant date amount, using our cumulative free cash flow performance metric. Based on the current fair value, the estimated unrecognized compensation cost related to unvested PUs totaled $12.9 million, as of December 31, 2022. The weighted-average period over which this cost is expected to be recognized is approximately two years.

## 9. INCOME TAXES

The components of income (loss) before income taxes are as follows:

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| | | *(in millions)* | |
| U.S. loss | **$ (57.0)** | $ (186.8) | $ (721.6) |
| Non - U.S. income | **123.3** | 188.0 | 111.3 |
| Total income (loss) before income taxes | **$ 66.3** | $ 1.2 | $ (610.3) |

The following is a summary of the components of our provision for income taxes:

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| | | *(in millions)* | |
| **Current** | | | |
| Federal | **$ 11.7** | $ 3.5 | $ 2.0 |
| State and local | **1.3** | 0.3 | 0.5 |
| Foreign | **21.8** | 34.0 | 20.2 |
| Total current | **$ 34.8** | $ 37.8 | $ 22.7 |
| | | | |
| **Deferred** | | | |
| Federal | **$ (23.2)** | $ (40.7) | $ (60.0) |
| State and local | **0.1** | (0.9) | (0.7) |
| Foreign | **(9.7)** | (0.9) | (11.2) |
| Total deferred | **(32.8)** | (42.5) | (71.9) |
| Total income tax expense (benefit) | **$ 2.0** | $ (4.7) | $ (49.2) |

The following is a reconciliation of income taxes calculated at the U.S. federal statutory income tax rate of 21% in 2022, 2021 and 2020 to our provision for income taxes:

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| | | *(in millions)* | |
| Federal statutory | **$ 13.9** | $ 0.3 | $ (128.2) |
| Foreign income taxes | **(14.7)** | (14.0) | (21.5) |
| Change in enacted tax rate | **—** | 0.1 | 2.1 |
| State and local | **2.4** | 3.0 | (5.0) |
| Tax credits | **(9.6)** | (11.0) | (9.7) |
| Valuation allowance | **9.5** | 2.7 | 19.8 |
| Goodwill impairment | **—** | — | 107.1 |
| Withholding taxes | **4.4** | 3.2 | 5.6 |
| U.S. tax on unremitted foreign earnings | **1.6** | 2.2 | — |
| Tax benefit on loss carryback | **—** | (5.2) | (14.4) |
| Global intangible low-taxed income (GILTI) | **6.4** | 6.5 | 2.3 |
| Foreign derived intangible income deduction | **(13.9)** | — | — |
| Uncertain tax positions | **3.8** | 1.2 | (8.8) |
| Other | **(1.8)** | 6.3 | 1.5 |
| Effective income tax expense (benefit) | **$ 2.0** | $ (4.7) | $ (49.2) |

In 2022, our effective income tax rate varied from the U.S. federal statutory rate primarily as a result of recognizing a net income tax benefit of approximately $7.5 million due to changes in our determination related to the potential realization of deferred tax assets and the resulting release of a valuation allowance in a foreign jurisdiction, as well as the benefit from foreign derived intangible income deductions in the U.S. In addition, our effective tax rate varies from the U.S. federal statutory rate as a result of the $13.6 million gain on bargain purchase of Tekfor, which resulted in no income tax expense.

In 2021, our effective income tax rate varied from the U.S. federal statutory rate primarily as a result of recognizing a net income tax benefit of approximately $5.2 million related to our ability to carry back prior year losses to tax years with the higher 35% corporate income tax rate.

In 2020, our effective income tax rate varied from the U.S. federal statutory rate primarily as a result of the goodwill impairment charge, which resulted in no income tax benefit, as well as favorable foreign tax rates, the impact of tax credits, and the finalization of an advance pricing agreement in a foreign jurisdiction, which resulted in a tax benefit of approximately $6.8 million. We also recognized a tax benefit of approximately $14.4 million related to our ability to carry back prior year losses, as well as projected current year losses, under the CARES Act to years with the previous 35% tax rate. These income tax benefits were partially offset by our inability to realize an income tax benefit for losses incurred in certain foreign and state jurisdictions, as well as a partial valuation allowance of approximately $5.3 million on certain U.S. federal income tax attributes.

As of December 31, 2022, we have refundable income taxes of approximately $18.8 million, $17.1 million of which is classified as Prepaid expenses and other and $1.7 million classified as Other assets and deferred charges on our Consolidated Balance Sheet, as compared to approximately $8.7 million classified as Prepaid expenses and other and $6.9 million classified as Other assets and deferred charges as of December 31, 2021. We also have income taxes payable of approximately $7.5 million and $11.8 million classified as Accrued expenses and other on our Consolidated Balance Sheets as of December 31, 2022 and 2021, respectively.

The approximate tax effect of each significant type of temporary difference and carryforward that results in a deferred tax asset or liability is as follows:

| | December 31, | |
|---|---|---|
| | 2022 | 2021 |
| | *(in millions)* | |
| **Deferred tax assets** | | |
| Employee benefits | **$ 109.0** | $ 163.1 |
| Inventory | **38.9** | 31.7 |
| Net operating loss (NOL) carryforwards | **203.7** | 186.7 |
| Tax credit carryforwards | **64.5** | 83.6 |
| Capital allowance carryforwards | **11.5** | 10.8 |
| Capitalized expenditures | **63.1** | 41.8 |
| Interest carryforward | **42.4** | 26.0 |
| Operating lease liabilities | **24.4** | 28.0 |
| Other | **33.3** | 41.6 |
| Valuation allowances | **(217.5)** | (201.7) |
| Deferred tax assets | **$ 373.3** | $ 411.6 |
| | | |
| **Deferred tax liabilities** | | |
| Other intangible assets | **$ (136.8)** | $ (160.7) |
| Fixed assets | **(88.7)** | (103.3) |
| Operating lease right-of-use assets | **(24.2)** | (27.8) |
| Other | **(15.3)** | (12.2) |
| Deferred tax liabilities | **$ (265.0)** | $ (304.0) |
| | | |
| Deferred tax assets, net | **$ 108.3** | $ 107.6 |

Deferred tax assets and liabilities recognized in our Consolidated Balance Sheets are as follows:

| | December 31, | |
|---|---|---|
| | 2022 | 2021 |
| | *(in millions)* | |
| U.S. federal and state deferred tax asset, net | **$ 47.6** | $ 56.9 |
| Other foreign deferred tax asset, net | **60.7** | 50.7 |
| Deferred tax asset, net | **$ 108.3** | $ 107.6 |

**DEFERRED INCOME TAX ASSETS AND LIABILITIES AND VALUATION ALLOWANCES** The deferred income tax assets and liabilities summarized above reflect the impact of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the basis of such assets and liabilities for income tax purposes. ASC 740 - *Income Taxes* states that companies must measure deferred tax amounts at the rate at which they are expected to be realized.

As of December 31, 2022 and December 31, 2021, we had deferred tax assets from domestic and foreign net operating loss and tax credit carryforwards of $279.7 million and $281.1 million, respectively. Approximately $107.8 million of the deferred tax assets at December 31, 2022 relate to NOL and tax credits that can be carried forward indefinitely with the remainder expiring between 2023 and 2042.

Accounting guidance for income taxes requires a deferred tax liability to be established for the U.S. tax impact of undistributed earnings of foreign subsidiaries unless it can be shown that these earnings will be permanently reinvested outside the U.S. The undistributed earnings of our foreign subsidiaries will generally not be taxed upon repatriation to the U.S. as these earnings will be treated as previously taxed income from either the one-time transition tax or GILTI, or they will be offset with a full dividends received deduction. We have provided deferred income taxes for the estimated foreign income tax and applicable withholding taxes on earnings of subsidiaries expected to be distributed.

In accordance with the accounting guidance for income taxes, we review the likelihood that we will realize the benefit of deferred tax assets and estimate whether recoverability of our deferred tax assets is “more likely than not,” based on forecasts of taxable income in the related tax jurisdictions. In determining the requirement for a valuation allowance, the historical results, projected future operating results based upon approved business plans, eligible carry forward periods, and tax planning opportunities are considered, along with other relevant positive and negative evidence. If, based upon available evidence, it is more likely than not the deferred tax assets will not be realized, a valuation allowance is recorded. During 2020, we determined that a portion of our deferred tax assets related to certain U.S. federal income tax attributes that are being carried forward were not more likely than not to be realized and, as such, we recorded a valuation allowance resulting in tax expense of approximately $5.3 million during the year ended December 31, 2020. During 2021, we determined that the valuation allowance related to certain U.S. federal income tax attributes should be increased and, as such, we increased the valuation allowance to approximately $7.0 million as of December 31, 2021. During 2022, we determined that the valuation allowance related to certain U.S. federal income tax attributes should be increased and, as such, we increased the valuation allowance to approximately $22.7 million as of December 31, 2022, resulting in an increase in tax expense of approximately $15.7 million.

Due to the uncertainty associated with the extent and ultimate impact of the significant supply chain constraints affecting the automotive industry, including COVID-19, the semiconductor shortage and resulting impact on global automotive production volumes, and the conflict between Russia and Ukraine, we may experience lower than projected earnings in certain jurisdictions in future periods, and as a result, it is reasonably possible that changes in valuation allowances could be recognized in future periods and such changes could be material to our financial statements.

During 2022, 2021 and 2020, we recorded a net tax expense of $0.6 million, $0.8 million and $14.5 million, respectively, resulting from net losses in certain jurisdictions with no corresponding tax benefit due to increases in our valuation allowance. These income tax expenses were increased in 2022, 2021 and 2020 by a net tax expense of $8.9 million, $1.9 million, and $5.3 million, respectively, resulting from changes in determinations relating to the potential realization of deferred tax assets and the resulting establishment of, or release of, valuation allowances.

On June 1, 2022, our acquisition of Tekfor became effective and we recorded a valuation allowance against certain U.S. and foreign deferred tax assets of $7.8 million as of June 1, 2022 associated with the acquired entities.

As of December 31, 2022 and December 31, 2021, we have a valuation allowance of $217.5 million and $201.7 million, respectively, related to net deferred tax assets in several foreign jurisdictions and U.S. federal, state and local jurisdictions.

**UNRECOGNIZED INCOME TAX BENEFITS** To the extent that we have uncertain tax positions, a determination is made as to whether such positions meet the “more likely than not” threshold. This threshold must be met in order to record any tax benefit and, to the extent that an uncertain tax position meets the "more likely than not" threshold, we have measured and recorded the highest probable benefit, and have established appropriate reserves for benefits that exceed the amount likely to be sustained upon examination.

A reconciliation of the beginning and ending amounts of unrecognized income tax benefits is as follows:

| | Unrecognized Income Tax Benefits | Interest and Penalties |
|---|---|---|
| | *(in millions)* | |
| **Balance at January 1, 2020** | $ 41.1 | $ 11.5 |
| Increase in prior year tax positions | 0.2 | — |
| Decrease in prior year tax positions | (6.6) | (1.7) |
| Increase in current year tax positions | 0.7 | — |
| Settlement | (12.2) | (6.3) |
| Foreign currency remeasurement adjustment | (3.0) | (1.5) |
| **Balance at December 31, 2020** | $ 20.2 | $ 2.0 |
| Increase in prior year tax positions | — | — |
| Decrease in prior year tax positions | (1.0) | (0.1) |
| Increase in current year tax positions | 2.0 | 0.3 |
| Foreign currency remeasurement adjustment | — | — |
| **Balance at December 31, 2021** | $ 21.2 | $ 2.2 |
| Increase in prior year tax positions | **3.6** | **1.1** |
| Decrease in prior year tax positions | **(0.8)** | **—** |
| Increase in current year tax positions | **0.5** | **—** |
| Tekfor acquisition | **12.6** | **—** |
| Foreign currency remeasurement adjustment | **0.1** | **—** |
| **Balance at December 31, 2022** | **$ 37.2** | **$ 3.3** |

At December 31, 2022 and December 31, 2021, we had $37.2 million and $21.2 million of gross unrecognized income tax benefits, respectively. On June 1, 2022, our acquisition of Tekfor became effective and we recorded a liability for unrecognized income tax benefits of $12.6 million as of June 1, 2022 associated with the acquired entities.

In 2022, 2021, and 2020, we recognized a tax expense/(benefit) of $1.1 million, $0.2 million and $(1.7) million, respectively, related to interest and penalties in Income tax expense (benefit) on our Consolidated Statements of Operations. We have a liability of $3.3 million and $2.2 million related to the estimated future payment of interest and penalties at December 31, 2022 and 2021, respectively. The amount of the unrecognized income tax benefits, including interest and penalties, as of December 31, 2022 that, if recognized, would affect the effective tax rate is $36.3 million.

In the second quarter of 2020, we finalized an advance pricing agreement in a foreign jurisdiction, which resulted in a cash payment to the tax authorities of $18.5 million and a reduction of our liability for unrecognized tax benefits and related interest and penalties of $25.3 million. We monitor the progress and conclusions of all ongoing audits and other communications with tax authorities and adjust our estimated liability as necessary.

We operate in multiple jurisdictions throughout the world and the income tax returns of several subsidiaries in various tax jurisdictions are currently under examination. We are currently under a U.S. federal income tax examination for years 2015 through 2019. Generally, we are no longer subject to U.S. federal, state and local, or non-U.S. income tax examinations by tax authorities prior to 2015. Based on the status of ongoing tax audits and the protocol of finalizing audits by the relevant tax authorities, it is not possible to estimate the impact of changes, if any, to previously recorded uncertain tax positions. Negative or unexpected outcomes of tax examinations and audits, and any related litigation, could have a material adverse impact on our results of operations, financial condition and cash flows. We will continue to monitor the progress and conclusions of all ongoing audits and other communications with tax authorities and will adjust our estimated liability as necessary.

***Other Income Tax Matters*** During their examination of our 2015 U.S. federal income tax return, the Internal Revenue Service (IRS) asserted that income earned by a Luxembourg subsidiary from its Mexican branch operations should be categorized as foreign base company sales income (FBCSI) under Section 954(d) of the Internal Revenue Code and recognized currently as taxable income on our 2015 U.S. federal income tax return. As a result of this assertion, the IRS issued a Notice of Proposed Adjustment (NOPA). AAM disagreed with the NOPA, believes that the proposed adjustment is without merit and contested the matter through the IRS's administrative appeals process. No resolution was reached in the appeals process and in September 2022, the IRS issued a Notice of Deficiency. The IRS subsequently issued a Notice of Tax Due in December 2022 and AAM paid the assessed tax and interest of $10.1 million in January 2023. We intend to file a claim for refund for the amount of tax and interest paid related to this matter for the 2015 tax year and, if necessary, file suit in the U.S. Court of Federal Claims. We believe it is likely that we will be successful in ultimately defending our position. As such, we have not recorded any impact of the IRS's proposed adjustment in our consolidated financial statements as of, and for the year ended, December 31, 2022. As of December 31, 2022, in the event AAM is not successful in defending its position, the potential additional income tax expense, including estimated interest charges, related to tax years 2015 through 2022, is estimated to be in the range of approximately $285 million to $335 million.

In a matter of related interest, in May 2020, the U.S Tax Court ruled against another U.S. corporation, finding that the income it earned through a Mexican branch of its Luxembourg subsidiary corporation was FBCSI. In that situation, the taxpayer appealed the U.S. Tax Court decision to the U.S. Court of Appeals for the Sixth Circuit. In December 2021, the U.S. Court of Appeals affirmed, in a split decision, the Tax Court decision in favor of the IRS. In January 2022, the taxpayer in the above referenced matter filed a petition for rehearing and this petition was denied. Finally, in June 2022, the taxpayer filed a petition with the U.S. Supreme Court to review the judgment of the U.S. Court of Appeals for the Sixth Circuit and in November 2022 that petition was also denied. Notwithstanding the decisions rendered in that case, and because our position is based upon different facts and circumstances, including but not limited to, differences in structure, and different income tax regulations in effect for our tax years under examination, we continue to believe, after consultation with tax and legal counsel that it is more likely than not that our structure does not give rise to FBCSI.

## 10. EARNINGS (LOSS) PER SHARE (EPS)

We present EPS using the two-class method. This method allocates undistributed earnings between common shares and non-vested share based payment awards that entitle the holder to non-forfeitable dividend rights. Our participating securities are our non-vested restricted stock units.

The following table sets forth the computation of our basic and diluted EPS available to shareholders of common stock (excluding participating securities):

| | 2022 | 2021 | 2020 |
|---|---|---|---|
| | *(in millions, except per share data)* | | |
| **Numerator** | | | |
| Net income (loss) attributable to AAM | **$ 64.3** | $ 5.9 | $ (561.3) |
| Less: Net income allocated to participating securities | **(2.7)** | (0.2) | — |
| Net income (loss) attributable to common shareholders - Basic and Dilutive | **$ 61.6** | $ 5.7 | $ (561.3) |
| | | | |
| **Denominators** | | | |
| Basic common shares outstanding - | | | |
| Weighted-average shares outstanding | **119.4** | 118.5 | 117.9 |
| Less: Weighted-average participating securities | **(4.9)** | (4.6) | (4.8) |
| Weighted-average common shares outstanding | **114.5** | 113.9 | 113.1 |
| | | | |
| Effect of dilutive securities - | | | |
| Dilutive stock-based compensation | **1.0** | 0.2 | — |
| | | | |
| Diluted shares outstanding - | | | |
| Adjusted weighted-average shares after assumed conversions | **115.5** | 114.1 | 113.1 |
| | | | |
| Basic EPS | **$ 0.54** | $ 0.05 | $ (4.96) |
| | | | |
| Diluted EPS | **$ 0.53** | $ 0.05 | $ (4.96) |

Basic and diluted loss per share are the same in 2020 because the effect of potentially dilutive stock-based compensation would have been antidilutive. Excluded potentially dilutive shares were zero in 2020.

## 11. COMMITMENTS AND CONTINGENCIES

**PURCHASE COMMITMENTS** Obligated purchase commitments for capital expenditures and related project expenses were approximately $110.7 million at December 31, 2022 and $105.5 million at December 31, 2021. Of the approximately $110.7 million of purchase commitments at December 31, 2022, $99.6 million is expected to be paid in 2023 and $11.1 million is expected to be paid in 2024 and thereafter.

**LEGAL PROCEEDINGS** We are involved in, or potentially subject to, various legal proceedings or claims incidental to our business. These include, but are not limited to, matters arising out of product warranties, contractual matters, and environmental obligations. Although the outcome of these matters cannot be predicted with certainty, at this time we do not believe that any of these matters, individually or in the aggregate, will have a material adverse effect on our financial condition, results of operations or cash flows.

We file U.S. federal, state and local income tax returns, as well as foreign income tax returns in jurisdictions throughout the world. We are also subject to examinations of these tax returns by the relevant tax authorities. Negative or unexpected outcomes of these examinations and audits, and any related litigation, could have a material adverse impact on our results of operations, financial condition and cash flows.

We are subject to various federal, state, local and foreign environmental and occupational safety and health laws, regulations and ordinances, including those regulating air emissions, water discharge, waste management and environmental cleanup. We will continue to closely monitor our environmental conditions to ensure that we are in compliance with all laws, regulations and ordinances. We have made, and anticipate continuing to make, capital and other expenditures (including recurring administrative costs) to comply with environmental requirements at our current and former facilities. Such expenditures were not significant in 2022, 2021 and 2020.

**ENVIRONMENTAL OBLIGATIONS** Due to the nature of our manufacturing operations, we have legal obligations to perform asset retirement activities pursuant to federal, state, and local requirements at our current and former facilities. The process of estimating environmental liabilities is complex. Significant uncertainty may exist related to the timing and method of the settlement of these obligations. Therefore, these liabilities are not reasonably estimable until a triggering event occurs that allows us to estimate a range and assess the probabilities of potential settlement dates and the potential methods of settlement. In the future, we will update our estimated costs and potential settlement dates and methods and their associated probabilities based on available information. Any update may change our estimate and could result in a material adjustment to this liability.

**PRODUCT WARRANTIES** We record a liability for estimated warranty obligations at the dates our products are sold. These estimates are established using sales volumes and internal and external warranty data where there is no payment history and historical information about the average cost of warranty claims for customers with prior claims. We estimate our costs based on the contractual arrangements with our customers, existing customer warranty terms and internal and external warranty data, which includes a determination of our warranty claims and actions taken to improve product quality and minimize warranty claims. We continuously evaluate these estimates and our customers' administration of their warranty programs. We monitor actual warranty claim data and adjust the liability, as necessary, on a quarterly basis.

During 2022 and 2021, we also made adjustments to our warranty accrual to reflect revised estimates regarding our projected future warranty obligations. The following table provides a reconciliation of changes in the product warranty liability:

| | December 31, | |
|---|---|---|
| | **2022** | **2021** |
| | *(in millions)* | |
| **Beginning balance** | **$ 59.5** | $ 66.7 |
| Accruals | **14.1** | 19.4 |
| Settlements | **(10.8)** | (17.6) |
| Adjustments to prior period accruals | **(7.9)** | (8.6) |
| Foreign currency translation | **(0.8)** | (0.4) |
| **Ending balance** | **$ 54.1** | $ 59.5 |

## 12. RECLASSIFICATIONS OUT OF ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)

Reclassification adjustments and other activity impacting accumulated other comprehensive income (loss) (AOCI) during the years ended December 31, 2022, December 31, 2021 and December 31, 2020 are as follows *(in millions)*:

| | Defined Benefit Plans | Foreign Currency Translation Adjustments | Unrecognized Gain (Loss) on Cash Flow Hedges | Total |
|---|---|---|---|---|
| **Balance at January 1, 2020** | $ (259.9) | $ (101.2) | $ (15.7) | $ (376.8) |
| Other comprehensive income (loss) before reclassifications | (72.0) | 0.1 | (41.5) | (113.4) |
| Income tax effect of other comprehensive income (loss) before reclassifications | 14.2 | — | 8.2 | 22.4 |
| Amounts reclassified from accumulated other comprehensive loss into net loss | 8.2 *(a)* | — | 35.8 *(b)* | 44.0 |
| Income taxes reclassified into net loss | (1.5) | — | (6.9) | (8.4) |
| Net current period other comprehensive income (loss) | (51.1) | 0.1 | (4.4) | (55.4) |
| **Balance at December 31, 2020** | $ (311.0) | $ (101.1) | $ (20.1) | $ (432.2) |
| Other comprehensive income (loss) before reclassifications | 33.9 | (10.7) | 22.2 | 45.4 |
| Income tax effect of other comprehensive income (loss) before reclassifications | (7.0) | — | (4.8) | (11.8) |
| Amounts reclassified from accumulated other comprehensive loss into net income | 53.4 *(a)* | 0.5 | (9.8) *(b)* | 44.1 |
| Income taxes reclassified into net income | (11.2) | — | 0.9 | (10.3) |
| Net current period other comprehensive income (loss) | 69.1 | (10.2) | 8.5 | 67.4 |
| **Balance at December 31, 2021** | $ (241.9) | $ (111.3) | $ (11.6) | $ (364.8) |
| Other comprehensive income (loss) before reclassifications | **119.5** | **(38.4)** | **62.2** | **143.3** |
| Income tax effect of other comprehensive income (loss) before reclassifications | **(30.2)** | **—** | **(9.9)** | **(40.1)** |
| Amounts reclassified from accumulated other comprehensive loss into net income | **7.3** ***(a)*** | **—** | **(22.9)** ***(b)*** | **(15.6)** |
| Income taxes reclassified into net income | **(1.6)** | **—** | **3.4** | **1.8** |
| Net current period other comprehensive income (loss) | **95.0** | **(38.4)** | **32.8** | **89.4** |
| **Balance at December 31, 2022** | **$ (146.9)** | **$ (149.7)** | **$ 21.2** | **$ (275.4)** |

*(a) The amount reclassified for 2021 includes a credit to AOCI of $42.3 million related to the effect of the Pension Annuity Purchase. See Note 7 - Employee Benefit Plans for more detail.*

*(b) The amounts reclassified from AOCI included $(6.5) million in COGS, $(2.7) million in interest expense and $(13.7) million in other expense, net for the year ended December 31, 2022, $(5.6) million in COGS, $14.8 million in interest expense and $(19.0) million in other expense, net for the year ended December 31, 2021 and $2.9 million in COGS, $14.2 million in interest expense and $18.7 million in other expense, net for the year ended December 31, 2020.*

## 13. REVENUE FROM CONTRACTS WITH CUSTOMERS

The guidance in ASC 606 - *Revenue from Contracts with Customers* is based on the principle that an entity should recognize revenue to depict the transfer of goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. We are obligated under our contracts with customers to manufacture and supply products for use in our customers' operations. We satisfy these performance obligations at the point in time that the customer obtains control of the products, which is the point in time that the customer is able to direct the use of, and obtain substantially all of the remaining benefits from, the products. This typically occurs upon shipment to the customer in accordance with purchase orders and delivery releases issued by our customers. There is judgment involved in determining when the customer obtains control of the products and we have utilized the following indicators of control in our assessment:

- We have the present right to payment for the asset;
- The customer has legal title to the asset;
- We have transferred physical possession of the asset;
- The customer has the significant risks and rewards of ownership of the asset; and
- The customer has accepted the asset.

Our product offerings by segment are as follows:

- Driveline products consist primarily of front and rear axles, driveshafts, differential assemblies, clutch modules, balance shaft systems, disconnecting driveline technology, and electric and hybrid driveline products and systems for light trucks, sport utility vehicles (SUVs), crossover vehicles (CUVs), passenger cars and commercial vehicles; and
- Metal Forming products consist primarily of engine, transmission, driveline and safety-critical components for traditional internal combustion engine and electric vehicle architectures including light vehicles, commercial vehicles and off-highway vehicles, as well as products for industrial markets.

Our contracts with customers, which are comprised of purchase orders and delivery releases issued by our customers, generally state the terms of the sale, including the quantity and price of each product purchased. Trade accounts receivable from our customers are generally due approximately 50 days from the date our customers receive our product. Our contracts typically do not contain variable consideration as the contracts include stated prices. We provide our customers with assurance type warranties, which are not separate performance obligations and are outside the scope of ASC 606. Refer to Note 11 - Commitments and Contingencies for further information on our product warranties.

*Disaggregation of Net Sales*

Net sales recognized from contracts with customers, disaggregated by segment and geographical location, are presented in the following table for the years ended December 31, 2022, 2021 and 2020. Net sales are attributed to regions based on the location of production. Intersegment sales have been excluded from the table.

| | **Twelve Months Ended December 31, 2022** | | |
|---|---|---|---|
| | **Driveline** | **Metal Forming** | **Total** |
| | *(in millions)* | | |
| North America | **$ 3,202.4** | **$ 1,238.8** | **$ 4,441.2** |
| Asia | **449.8** | **43.5** | **493.3** |
| Europe | **391.6** | **338.9** | **730.5** |
| South America | **82.3** | **55.1** | **137.4** |
| Total | **$ 4,126.1** | **$ 1,676.3** | **$ 5,802.4** |

| | **Twelve Months Ended December 31, 2021** | | |
|---|---|---|---|
| | **Driveline** | **Metal Forming** | **Total** |
| North America | $ 2,839.8 | $ 1,142.6 | $ 3,982.4 |
| Asia | 441.6 | 47.4 | 489.0 |
| Europe | 374.8 | 216.1 | 590.9 |
| South America | 85.3 | 9.0 | 94.3 |
| Total | $ 3,741.5 | $ 1,415.1 | $ 5,156.6 |

| | **Twelve Months Ended December 31, 2020** | | |
|---|---|---|---|
| | **Driveline** | **Metal Forming** | **Total** |
| North America | $ 2,537.2 | $ 1,087.9 | $ 3,625.1 |
| Asia | 433.7 | 43.8 | 477.5 |
| Europe | 352.5 | 198.0 | 550.5 |
| South America | 49.2 | 8.5 | 57.7 |
| Total | $ 3,372.6 | $ 1,338.2 | $ 4,710.8 |

*Contract Assets and Liabilities*

The following table summarizes our beginning and ending balances for accounts receivable and contract liabilities associated with our contracts with customers *(in millions)*:

| | Accounts Receivable, Net | Contract Liabilities (Current) | Contract Liabilities (Long-term) |
|---|---|---|---|
| December 31, 2021 | $ 762.8 | $ 28.1 | $ 94.8 |
| December 31, 2022 | **820.2** | **28.1** | **73.4** |
| Increase/(decrease) | $ 57.4 | $ — | $ (21.4) |

Contract liabilities relate to deferred revenue associated with various settlements and commercial agreements for which we have future performance obligations to the customer. We recognize this deferred revenue into revenue over the life of the associated program as we satisfy our performance obligations to the customer. We do not have contract assets as defined in ASC 606.

During the twelve months ended December 31, 2022 and December 31, 2021 we amortized $31.3 million and $23.3 million, respectively, of previously recorded contract liabilities into revenue as we satisfied performance obligations with our customers.

*Sales and Other Taxes*

ASC 606 provides a practical expedient that allows companies to exclude from the transaction price any amounts collected from customers for all sales (and other similar) taxes. We do not include sales and other taxes in our transaction price and thus do not recognize these amounts as revenue.

## 14. LEASING

When an agreement grants us the right to substantially all of the economic benefits associated with an identified asset, and we are able to direct the use of that asset throughout the term of the agreement, we have a lease. We lease certain facilities, manufacturing machinery and equipment, and furniture under finance leases, and we also lease certain commercial office and production facilities, manufacturing machinery and equipment, vehicles and other assets under operating leases. Some of our leases include options to extend or terminate the leases and these options have been included in the relevant lease term to the extent that they are reasonably certain to be exercised.

The lease consideration for some of our facilities and machinery and equipment is variable, as it is based on various indices or usage of the underlying assets, respectively. Variable lease payments based on indices have been included in the related right-of-use assets and lease liabilities on our Consolidated Balance Sheets, while variable lease payments based on usage of the underlying asset have been excluded as they do not represent present rights or obligations.

Lease cost consists of the following:

| | Twelve Months Ended December 31, | | |
|---|---|---|---|
| | **2022** | **2021** | **2020** |
| | | *(in millions)* | |
| Finance lease cost | | | |
| Amortization of right-of-use assets | **$ 9.9** | $ 4.2 | $ 1.8 |
| Interest on lease liabilities | **4.7** | 2.0 | 0.4 |
| Total finance lease cost | **14.6** | 6.2 | 2.2 |
| | | | |
| Operating lease cost | **32.6** | 33.3 | 32.7 |
| Short-term lease cost | **1.4** | 1.6 | 3.0 |
| Variable lease cost | **5.6** | 3.2 | 2.9 |
| | | | |
| Total lease cost | **$ 54.2** | $ 44.3 | $ 40.8 |

For the year ended December 31, 2022, $31.8 million and $7.8 million were recorded to Cost of goods sold (COGS) and Selling, general and administrative expenses (SG&A), respectively, related to our operating leases, on our Consolidated Statements of Operations, as compared to $29.1 million and $9.0 million, respectively, for the year ended December 31, 2021 and $28.4 million and $10.2 million, respectively, for the year ended December 31, 2020.

The following table summarizes additional information related to our lease agreements.

| | Twelve Months Ended December 31, | | |
|---|---|---|---|
| | **2022** | **2021** | **2020** |
| | *(in millions, except lease term and rate)* | | |
| Cash paid for amounts included in measurement of lease liabilities | | | |
| Operating cash flows from finance leases | **$ 4.7** | $ 2.0 | $ 0.3 |
| Operating cash flows from operating leases | **37.6** | 35.9 | 35.1 |
| Financing cash flows from finance leases | **11.2** | 5.0 | 3.0 |
| Weighted-average remaining lease term - finance leases | **13.1 years** | 16.4 years | 15.8 years |
| Weighted-average remaining lease term - operating leases | **8.4 years** | 8.6 years | 8.7 years |
| Weighted-average discount rate - finance leases | **4.9 %** | 4.8 % | 4.2 % |
| Weighted-average discount rate - operating leases | **5.4 %** | 5.2 % | 5.7 % |

As the rate implicit in the lease is typically unknown, the discount rate used to determine the lease liability for the majority of our leases is the collateralized incremental borrowing rate in the applicable geographic area for a similar term and amount as the lease agreement.

Future undiscounted minimum payments under non-cancelable leases are as follows:

| | **Finance Leases** | **Operating Leases** |
|---|---|---|
| | *(in millions)* | |
| 2023 | $ 17.5 | $ 25.4 |
| 2024 | 14.3 | 20.3 |
| 2025 | 11.4 | 15.5 |
| 2026 | 10.0 | 11.7 |
| 2027 | 8.2 | 10.2 |
| Thereafter | 80.2 | 52.1 |
| Total future undiscounted minimum lease payments | 141.6 | 135.2 |
| Less: Impact of discounting | (36.2) | (26.9) |
| Total | $ 105.4 | $ 108.3 |

The right-of-use assets and lease liabilities recorded on our Consolidated Balance Sheets are as follows:

| | **December 31, 2022** | | **December 31, 2021** | |
|---|---|---|---|---|
| | **Finance Leases** | **Operating Leases** | **Finance Leases** | **Operating Leases** |
| | *(in millions)* | | *(in millions)* | |
| Property, plant and equipment, net | **$ 106.2** | **$ —** | $ 113.4 | $ — |
| Operating lease right-of-use assets | **—** | **107.2** | — | 123.7 |
| Total | **$ 106.2** | **$ 107.2** | $ 113.4 | $ 123.7 |
| Current portion of operating lease liabilities | **$ —** | **$ 21.1** | $ — | $ 24.6 |
| Accrued expenses and other | **13.0** | **—** | 6.3 | — |
| Long-term portion of operating lease liabilities | **—** | **87.2** | — | 99.9 |
| Postretirement benefits and other long-term liabilities | **92.4** | **—** | 82.5 | — |
| Total | **$ 105.4** | **$ 108.3** | $ 88.8 | $ 124.5 |

*ASC 842 Adoption of Practical Expedients*

We have elected to adopt, for all classes of underlying assets, a package of practical expedients provided under ASC 842 that allowed us at adoption to 1) not reassess whether existing or expired contracts contain or contained a lease; 2) not reassess the lease classification (operating or financing) of our existing leases at adoption; and 3) not reassess initial direct costs for existing leases.

ASC 842 also provides a practical expedient that allows companies to exclude balance sheet recognition of right-of-use assets and associated liabilities for lease terms of 12 months or less, which we have elected as part of our adoption of ASC 842 for all classes of underlying assets. We do not include right-of-use assets and operating lease liabilities on our Consolidated Balance Sheet for leases with a term of 12 months or less.

We have also elected to adopt the practical expedient under ASC 842 to not separate lease and non-lease components in contracts that contain both. These lease agreements are accounted for as a single lease component for all classes of underlying assets.

*Leases Not Yet Commenced*

As of December 31, 2022, we have not entered into any additional leases that have not yet commenced.

## 15. MANUFACTURING FACILITY FIRE AND INSURANCE RECOVERY

On September 22, 2020, a significant industrial fire occurred at our Malvern Manufacturing Facility in Ohio (Malvern Fire). All associates were evacuated safely and without injury and we were able to maintain continuity of supply to our customers without any significant disruptions. In the fourth quarter of 2022, we finalized the claim with our insurance providers. As a result, the amounts detailed in this footnote represent the final claim eligible expenses and recoveries associated with the Malvern Fire.

Our insurance policies covered the repair, replacement or actual cash value of the assets that incurred loss or damage, less our applicable deductible of $1.0 million. In addition, our insurance policies provided coverage for interruption to our business, including lost or reduced profits and reimbursement for certain expenses and costs that were incurred relating to the fire. In 2022, we recorded $2.7 million of charges primarily related to transportation and freight and other costs incurred to resume or relocate operations and ensure continuity of supply to our customers. We also recorded an insurance recovery of $41.8 million and received reimbursements and advances under our insurance policies of approximately $29.1 million, of which approximately $12.1 million is presented as an operating cash flow and approximately $17.0 million is presented as an investing cash flow in our Consolidated Statement of Cash Flows. This resulted in net pre-tax income in our Consolidated Statement of Operations of approximately $39.1 million in Cost of goods sold for the twelve months ended December 31, 2022. At December 31, 2022, $24.0 million of insurance recovery receivable is included in Prepaid expenses and other in our Consolidated Balance Sheet. This amount was fully collected in January 2023.

Since the date of the Malvern Fire and the establishment of the insurance claim, we have incurred $55.1 million of total charges primarily related to site services and clean-up, transportation and freight, asset repairs and other costs incurred to resume or relocate operations and ensure continuity of supply to our customers. In addition, we recorded a total of $27.0 million of costs primarily associated with the write-down of PP&E as a result of damage from the fire. We have recorded total insurance recoveries of $123.3 million and have received total reimbursements and advances under our insurance policies of $99.3 million, of which $11.1 million was received in 2020, $59.1 million was received in 2021, and $29.1 million was received in 2022.

## 16. ACQUISITIONS AND DISPOSITIONS

### Acquisition of Tekfor Group

On June 1, 2022, our acquisition of Tekfor Group became effective and we paid a total purchase price of $94.4 million, which was funded entirely with cash on hand. Tekfor Group manufactures high-performance components, modules and fasteners, including traditional powertrain and driveline components (for both internal combustion and hybrid applications), and e-mobility components. Our acquisition of Tekfor contributes to diversifying our geographic and customer sales mix, while also increasing our electrification product portfolio.

The acquisition of Tekfor Group was accounted for under the acquisition method under ASC 805 - *Business Combinations* with the purchase price allocated to the identifiable assets and liabilities of the acquired company based on the respective fair values of the assets and liabilities.

The following represents the fair values of the assets acquired and liabilities assumed resulting from the acquisition *(in millions)*:

| | December 31, 2022 |
|---|---|
| Total consideration transferred | $ 94.4 |
| | |
| Cash and cash equivalents | $ 14.3 |
| Accounts receivable | 33.7 |
| Inventories | 46.3 |
| Prepaid expenses and other long-term assets | 30.1 |
| Deferred income tax assets | 5.0 |
| Property, plant and equipment | 105.5 |
| Total assets acquired | $ 234.9 |
| Accounts payable | 33.5 |
| Accrued expenses and other | 28.1 |
| Debt | 23.4 |
| Postretirement benefits and other long-term liabilities | 41.9 |
| Net assets acquired | $ 108.0 |
| | |
| Gain on bargain purchase of business | $ 13.6 |

The gain on bargain purchase of business was primarily the result of current macroeconomic factors such as the supply chain disruptions impacting the automotive industry, including the conflict between Russia and Ukraine, the semiconductor supply shortage, and increasing input costs, including materials, freight and utilities. The allocation of the purchase price to the assets acquired and liabilities assumed is based upon estimated information and is subject to change within the measurement period. Under the guidance in ASC 805, the measurement period is a period not to exceed one year from the acquisition date during which we may adjust estimated or provisional amounts recorded during purchase accounting if new information is obtained about facts and circumstances that existed as of the acquisition date that, if known, would have resulted in revised estimated values of those assets or liabilities as of that date.

The primary areas of the preliminary purchase allocation that are not yet finalized relate to property, plant and equipment and deferred income tax assets and liabilities. The fair values of the assets acquired and liabilities assumed are based on our preliminary estimates and assumptions, as well as other information compiled by management, including valuations that utilize customary valuation procedures and techniques. While we believe that these preliminary estimates provide a reasonable basis for estimating the fair value of the assets acquired and liabilities assumed, we will continue to evaluate available information prior to finalization of the amounts.

Included in net sales and net income for the period from the acquisition effective date on June 1, 2022 through December 31, 2022 was $204.0 million and a net loss of $5.1 million, respectively, attributable to Tekfor Group. The net loss attributable to Tekfor includes a one-time expense of approximately $4.0 million, net of tax, for the step-up of inventory to fair value.

***Unaudited Pro Forma Financial Information***

Unaudited pro forma net sales for AAM, on a combined basis with Tekfor Group for the years ended December 31, 2022 and December 31, 2021, were $5.95 billion and $5.50 billion, respectively, excluding Tekfor Group sales to AAM during those periods. Unaudited pro forma net income amounts for the years ended December 31, 2022 and December 31, 2021 were approximately $55 million and $15 million, respectively. Unaudited pro forma earnings per share amounts for the year ended December 31, 2022 and December 31, 2021 were $0.46 per share and $0.13 per share, respectively. Unaudited pro forma net income for the year ended December 31, 2021 includes a one-time gain of approximately $15 million associated with a Tekfor Group entity as a result of a favorable tax ruling in a foreign jurisdiction.

The unaudited pro forma net income amounts for the years ended December 31, 2022 and December 31, 2021 have been adjusted for approximately $4 million, net of tax, related to the step-up of inventory to fair value as a result of the acquisition, approximately $5 million, net of tax, for acquisition-related costs, and approximately $14 million for the gain on bargain purchase of business, which was not subject to tax. This resulted in a net reclassification of approximately $5 million from unaudited pro forma net income in 2022 into unaudited pro forma net income in 2021, as we are required to disclose the unaudited pro forma amounts as if the acquisition of Tekfor Group had been completed on January 1, 2021.

The disclosure of unaudited pro forma net sales and earnings is for informational purposes only and does not purport to indicate the results that would actually have been obtained had the merger been completed on the assumed date for the periods presented, or which may be realized in the future.

***Acquisition of Manufacturing Facility in Emporium, Pennsylvania***

In May 2021, AAM completed our acquisition of Emporium, under which we acquired $14.9 million of net assets that consisted of $5.9 million of inventory and $9.0 million of property, plant and equipment. The purchase price was $14.9 million, which consisted of $4.9 million of cash and $10.0 million of a deferred consideration liability that will be paid to seller at $2.5 million annually over the period 2022 through 2025. As the value of the net assets acquired was equal to the purchase price, no goodwill or gain on bargain purchase was recognized for this acquisition for the year ended December 31, 2021.

The operating results of this manufacturing facility for the period from our acquisition date through December 31, 2021 were insignificant to AAM's Consolidated Statements of Operations for this period. Further we have not disclosed pro forma revenue and earnings for the years ended December 31, 2021 and 2020 as the operating results of this manufacturing facility would be insignificant to AAM's consolidated results for these periods.

***Sale of Interest in Consolidated Joint Venture***

In the year ended December 31, 2021, we completed the sale of our ownership interest in a consolidated joint venture and received cash proceeds of approximately $2.6 million. As a result of the sale and deconsolidation of this joint venture, we recognized a loss of $2.7 million. Subsequent to the sale of this joint venture, we no longer present noncontrolling interest in our consolidated financial statements as all consolidated entities are wholly-owned.

## 17. SEGMENT AND GEOGRAPHIC INFORMATION

Our business is organized into Driveline and Metal Forming segments, with each representing a reportable segment under ASC 280 - *Segment Reporting*. The results of each segment are regularly reviewed by the chief operating decision maker to assess the performance of the segment and make decisions regarding the allocation of resources to the segments.

Our product offerings by segment are as follows:

- Driveline products consist primarily of front and rear axles, driveshafts, differential assemblies, clutch modules, balance shaft systems, disconnecting driveline technology, and electric and hybrid driveline products and systems for light trucks, SUVs, CUVs, passenger cars and commercial vehicles; and
- Metal Forming products consist primarily of engine, transmission, driveline and safety-critical components for traditional internal combustion engine and electric vehicle architectures including light vehicles, commercial vehicles and off-highway vehicles, as well as products for industrial markets.

We use Segment Adjusted EBITDA as the measure of earnings to assess the performance of each segment and determine the resources to be allocated to the segments. We define EBITDA to be earnings before interest expense, income taxes, depreciation and amortization. Segment Adjusted EBITDA is defined as EBITDA for our reportable segments excluding the impact of restructuring and acquisition-related costs, debt refinancing and redemption costs, loss on the sale of a business, impairment charges, pension settlements, unrealized gains or losses on equity securities, and non-recurring items.

On June 1, 2022, our acquisition of Tekfor became effective and we began consolidating the results of Tekfor on that date, which are reported in our Metal Forming segment for the year ended December 31, 2022.

| | Year Ended December 31, 2022 | | | |
|---|---|---|---|---|
| | **Driveline** | **Metal Forming** | **Corporate and Eliminations** | **Total** |
| | | *(in millions)* | | |
| Sales | **$ 4,130.8** | **$ 2,113.0** | **$ —** | **$ 6,243.8** |
| Less: Intersegment sales | **4.7** | **436.7** | **—** | **441.4** |
| Net external sales | **$ 4,126.1** | **$ 1,676.3** | **$ —** | **$ 5,802.4** |
| Segment adjusted EBITDA | **$ 547.0** | **$ 200.3** | **$ —** | **$ 747.3** |
| Depreciation and amortization | **$ 281.2** | **$ 210.9** | **$ —** | **$ 492.1** |
| Capital expenditures | **$ 107.8** | **$ 58.4** | **$ 5.2** | **$ 171.4** |
| Total assets | **$ 2,620.4** | **$ 1,821.9** | **$ 1,027.1** | **$ 5,469.4** |

| | Year Ended December 31, 2021 | | | |
|---|---|---|---|---|
| | Driveline | Metal Forming | Corporate and Eliminations | Total |
| Sales | $ 3,744.9 | $ 1,762.2 | $ — | $ 5,507.1 |
| Less: Intersegment sales | 3.4 | 347.1 | — | 350.5 |
| Net external sales | $ 3,741.5 | $ 1,415.1 | $ — | $ 5,156.6 |
| | | | | |
| Segment adjusted EBITDA | $ 577.7 | $ 255.6 | $ — | $ 833.3 |
| | | | | |
| Depreciation and amortization | $ 301.9 | $ 242.4 | $ — | $ 544.3 |
| | | | | |
| Capital expenditures | $ 126.8 | $ 50.5 | $ 3.9 | $ 181.2 |
| | | | | |
| Total assets | $ 2,925.6 | $ 1,576.9 | $ 1,133.2 | $ 5,635.7 |

| | Year Ended December 31, 2020 | | | |
|---|---|---|---|---|
| | Driveline | Metal Forming | Corporate and Eliminations | Total |
| Sales | $ 3,375.5 | $ 1,652.0 | $ — | $ 5,027.5 |
| Less: Intersegment sales | 2.9 | 313.8 | — | 316.7 |
| Net external sales | $ 3,372.6 | $ 1,338.2 | $ — | $ 4,710.8 |
| | | | | |
| Segment adjusted EBITDA | $ 474.8 | $ 245.0 | $ — | $ 719.8 |
| | | | | |
| Depreciation and amortization | $ 306.1 | $ 215.8 | $ — | $ 521.9 |
| | | | | |
| Capital expenditures | $ 125.3 | $ 81.9 | $ 8.4 | $ 215.6 |
| | | | | |
| Total assets | $ 3,035.7 | $ 1,680.3 | $ 1,200.3 | $ 5,916.3 |

Assets included in the Corporate and Eliminations column of the tables above represent AAM corporate assets, as well as eliminations of intercompany assets.

The following table represents a reconciliation of Segment Adjusted EBITDA to consolidated income (loss) before income taxes for the years ended December 31, 2022, 2021 and 2020:

| | Year Ended December 31, | | |
|---|---|---|---|
| | **2022** | **2021** | **2020** |
| | *(in millions)* | | |
| Segment adjusted EBITDA | **$ 747.3** | $ 833.3 | $ 719.8 |
| Interest expense | **(174.5)** | (195.2) | (212.3) |
| Depreciation and amortization | **(492.1)** | (544.3) | (521.9) |
| Impairment charges | **—** | — | (510.0) |
| Restructuring and acquisition-related costs | **(30.2)** | (49.4) | (67.2) |
| Pension settlements | **—** | (42.3) | (0.5) |
| Loss on sale of business | **—** | (2.7) | (1.0) |
| Unrealized gain (loss) on equity securities | **(25.5)** | 24.4 | — |
| Debt refinancing and redemption costs | **(6.4)** | (34.0) | (7.9) |
| Malvern Fire insurance recoveries (charges), net | **39.1** | 11.4 | (9.3) |
| Acquisition-related fair value inventory adjustment | **(5.0)** | — | — |
| Gain on bargain purchase of business | **13.6** | — | — |
| Income (loss) before income taxes | **$ 66.3** | $ 1.2 | $ (610.3) |

Financial information relating to our operations by geographic area is presented in the following table. Net sales are attributed to countries based upon location of production. Long-lived assets exclude deferred income taxes.

| | December 31, | | |
|---|---|---|---|
| | **2022** | **2021** | **2020** |
| | *(in millions)* | | |
| **Net sales** | | | |
| United States | **$ 2,148.0** | $ 1,923.5 | $ 1,816.7 |
| Mexico | **2,293.2** | 2,058.9 | 1,808.5 |
| South America | **137.4** | 94.3 | 57.6 |
| China | **280.0** | 299.6 | 317.1 |
| All other Asia | **213.3** | 189.4 | 160.4 |
| Europe | **730.5** | 590.9 | 550.5 |
| Total net sales | **$ 5,802.4** | $ 5,156.6 | $ 4,710.8 |
| | | | |
| **Long-lived assets** | | | |
| United States | **$ 1,778.9** | $ 1,976.5 | $ 2,099.4 |
| Mexico | **821.3** | 888.1 | 1,021.6 |
| South America | **71.2** | 40.9 | 49.7 |
| China | **130.1** | 164.8 | 185.1 |
| All other Asia | **80.5** | 87.1 | 84.2 |
| Europe | **475.0** | 501.2 | 491.5 |
| Total long-lived assets | **$ 3,357.0** | $ 3,658.6 | $ 3,931.5 |

**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

To the Board of Directors and Stockholders of American Axle and Manufacturing Holdings, Inc.

**Opinions on the Financial Statements and Internal Control over Financial Reporting**

We have audited the accompanying consolidated balance sheets of American Axle and Manufacturing Holdings, Inc. and subsidiaries (the "Company") as of December 31, 2022 and 2021, the related consolidated statements of operations, comprehensive income (loss), stockholders' equity, and cash flows, for each of the three years in the period ended December 31, 2022, and the related notes and the schedule listed in the Index at Item 15 (collectively referred to as the "financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022, in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by COSO.

**Basis for Opinions**

The Company's management is responsible for these financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on these financial statements and an opinion on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the financial statements included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures to 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. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

**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.

**Critical Audit Matters**

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

**Income Taxes — Refer to Notes 1 and 9 to the consolidated financial statements**

*Critical Audit Matter Description*

The Company operates in many different geographic locations, including several foreign, state and local tax jurisdictions. Determining the provision for income taxes, the realizability of deferred tax assets and the recognition and measurement of tax positions requires management to make assumptions and judgments regarding the application of complex tax laws and regulations as well as projected future operating results, eligible carry forward periods, and tax planning opportunities.

The Company recorded an income tax expense of $2.0 million for the year ended December 31, 2022 and net deferred tax assets of $108.3 million, net of a valuation allowance of $217.5 million, and unrecognized tax benefits and related interest and penalties of $40.5 million as of December 31, 2022. Accounting for income taxes requires management to make assumptions and judgments. Performing audit procedures to evaluate the reasonableness of management's assumptions and judgments required a high degree of auditor judgment and an increased extent of effort, including the need to involve our income tax specialists.

*How the Critical Audit Matter Was Addressed in the Audit*

Our audit procedures related to the provision for income taxes, the realizability of deferred tax assets and the recognition and measurement of tax positions included the following which were performed with the assistance of our income tax specialists, among others:

- We tested the effectiveness of controls over the Company's determination of the provision for income taxes, the realizability of deferred tax assets and the recognition and measurement of tax positions.
- We tested the provision for income taxes, including the effective tax rate reconciliation, permanent and temporary differences and uncertain tax positions, by evaluating communications with tax advisors and regulators, and testing the underlying data for completeness and accuracy.

- We evaluated the significant assumptions used by management in establishing and measuring tax-related assets and liabilities, including the application of recent tax laws and regulations, as well as forecasted taxable income, eligible carry forward periods and tax planning opportunities supporting the realizability of deferred tax assets.
- We evaluated the application of relevant tax laws and regulations and the reasonableness of management's assessments of whether certain tax positions are more likely than not of being sustained.

**Goodwill Impairment Analysis — Refer to Notes 1 and 3 to the consolidated financial statements**

*Critical Audit Matter Description*

The Company conducts its annual goodwill impairment test in the fourth quarter of each year, as well as whenever adverse events or changes in circumstances indicate a possible impairment. Fair value of each reporting unit is estimated based on a combination of discounted cash flows and the use of pricing multiples derived from an analysis of comparable public companies multiplied against historical and/or anticipated financial metrics of each reporting unit. These calculations contain uncertainties as they require management to make assumptions including, but not limited to, market comparables, future cash flows of the reporting units, and appropriate discount and long-term growth rates.

As a result of the Company's annual goodwill impairment test for the Driveline reporting unit in the fourth quarter of 2022, no impairment was identified.

The consolidated goodwill balance was $181.6 million as of December 31, 2022 which is attributed entirely to the Driveline reporting unit (Driveline). The impairment test requires management to make assumptions to estimate the fair value of the reporting unit. Performing audit procedures to evaluate the reasonableness of management's assumptions related to market comparables, future cash flows, and discount and long-term growth rates required a high degree of auditor judgment and an increased extent of effort, including the need to involve our fair value specialists.

*How the Critical Audit Matter Was Addressed in the Audit*

Our audit procedures related to market comparables, future cash flows and discount and long-term growth rates included the following, among others:

- We tested the effectiveness of controls over the Company's goodwill impairment test and determination of related assumptions, including those over market comparables, future cash flows and discount and long-term growth rates.
- We evaluated management's ability to accurately forecast future cash flows within the goodwill impairment test, by comparing actual reporting unit results to management's historical forecasts.
- We evaluated the reasonableness of management's forecast of future cash flows by comparing the projected cash flows to (1) historical results, (2) internal communications to management and the Board of Directors, and (3) forecasted information included in Company press releases, analyst and industry reports of the Company and companies in its peer group. With the assistance of our fair value specialists, we tested the underlying source information, and the mathematical accuracy of the forecasted cash flows within the fair value calculations.
- With the assistance of our fair value specialists, we evaluated the market comparables and discount and long-term growth rates, including testing the underlying source information and the mathematical accuracy of the calculations, and developed a range of independent estimates and compared those to the rates selected by management.

/s/ Deloitte & Touche LLP

Detroit, Michigan
February 17, 2023

We have served as the Company's auditor since 1998.

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

None.

## Item 9A. Controls and Procedures

***Disclosure Controls and Procedures***

Under the direction of our Chief Executive Officer and Chief Financial Officer, we evaluated our disclosure controls and procedures and internal control over financial reporting and concluded that our disclosure controls and procedures (as defined in Rules 13a - 15(e) or 15d - 15(e) under the Securities Exchange Act of 1934 (the “Exchange Act”)) were effective as of December 31, 2022.

***Management Report on Internal Control over Financial Reporting***

We are responsible for establishing and maintaining adequate internal control over financial reporting. Our internal control system was designed to provide reasonable assurance to our management and Board of Directors regarding the preparation and fair presentation of our consolidated financial statements.

Our management assessed the effectiveness of our internal control over financial reporting as of December 31, 2022. In making this assessment, we used criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on our assessment, management concluded that, as of December 31, 2022, our internal control over financial reporting was effective based on those criteria.

The audit report of our independent registered public accounting firm regarding internal control over financial reporting is included in Item 8, ”Financial Statements and Supplementary Data.”

***Changes in Internal Control over Financial Reporting***

In conjunction with our recent acquisition activity, we utilized our framework of internal control over financial reporting specific to business combinations. The applicable controls address the various elements of a business combination, including but not limited to: 1) calculation of the consideration transferred; 2) identifying and properly accounting for transactions that are separate from the business combination; 3) use and oversight of competent and qualified personnel in performing the valuation of assets acquired and liabilities assumed; 4) review of inputs and outputs to the valuation models; 5) identifying and disclosing provisional amounts; and 6) tracking measurement period adjustments.

Our acquisition of Tekfor Group became effective on June 1, 2022. We are currently integrating policies, processes and operations for the combined company and will continue to evaluate our internal control over financial reporting as we develop and execute our integration plans. Acquired operations of Tekfor Group have been excluded from our assessment of AAM's internal control over financial reporting for the year ended December 31, 2022 as permissible under rules and regulations of the Securities and Exchange Commission.

Except as described above with regard to the acquisition and integration of Tekfor Group, there were no changes in our internal control over financial reporting during the fourth quarter ended December 31, 2022 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

**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 Governance

The information required by Item 401(b), (d) (e) and (f) of Regulation S-K about our executive officers is furnished in Part I of this Form 10-K, Annual Report under the caption “Executive Officers of the Registrant.” All other information required by Item 10 is incorporated herein by reference from our Proxy Statement which we expect to file on or about March 23, 2023.

We have adopted a code of ethics that applies to our Chief Executive Officer and Chief Financial Officer and the senior financial executives who report directly to our Chief Financial Officer. This code of ethics is available on our website at *www.aam.com.* We will post on our website any amendment to or waiver from the provisions of the code of ethics or our code of business conduct that applies to executive officers or directors of the Company.

### Item 11. Executive Compensation

The information required by Item 11 is incorporated by reference from our Proxy Statement.

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

The information required by Item 12 is incorporated by reference from our Proxy Statement.

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

The information required by Item 13 under Items 404 and 407(a) of Regulation S-K is incorporated by reference from our Proxy Statement.

### Item 14. Principal Accounting Fees and Services

The information required by Item 9(e) of Schedule 14A is incorporated by reference from our Proxy Statement.

## Part IV

### Item 15. Exhibits and Financial Statement Schedules

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

1. All Financial Statements

   Consolidated Statements of Operations
   Consolidated Statements of Comprehensive Income (Loss)
   Consolidated Balance Sheets
   Consolidated Statements of Cash Flows
   Consolidated Statements of Stockholders' Equity
   Notes to Consolidated Financial Statements
   Report of Independent Registered Public Accounting Firm (PCAOB ID No. 34)

2. Financial Statement Schedules

   Schedule II - Valuation and Qualifying Accounts for the years ended December 31, 2022, 2021 and 2020 is filed as part of this Form 10-K.

   All other schedules have been omitted because they are not applicable or not required.

3. Exhibits

The following exhibits were previously filed unless otherwise indicated:

| Number | Description of Exhibit |
|---|---|
| 2.01 | Agreement and Plan of Merger by and among American Axle & Manufacturing Holdings, Inc., ALPHA SPV I, Inc. and Metaldyne Performance Group Inc. |
| | (Incorporated by reference to Exhibit 2.1 of Current Report on Form 8-K dated November 8, 2016.) |
| 2.02 | Unit Purchase Agreement, dated as of September 18, 2019, by and among American Axle & Manufacturing Holdings, Inc., Grede AcquisitionCo, Inc. and, for certain limited purposes, Grede TopCo, Inc. |
| | (Incorporated by reference to Exhibit 2.1 of Current Report on Form 8-K dated September 18, 2019) |
| 3.01 | Amended and Restated Certificate of Incorporation of American Axle & Manufacturing Holdings, Inc. |
| | (Incorporated by reference to Exhibit 3.2 filed with American Axle & Manufacturing Holdings, Inc. Registration Statement on Form S-8 (Registration No. 333-220300).) |
| 3.02 | Third Amended and Restated Bylaws of American Axle & Manufacturing Holdings, Inc. |
| | (Incorporated by reference to Exhibit 3.04 filed of Current Report on Form 8-K dated February 13, 2018.) |
| 4.01 | Specimen Certificate for shares of the Company's Common Stock |
| | (Incorporated by reference to Exhibit 4.01 filed with American Axle & Manufacturing Holdings, Inc. Registration Statement on Form S-1 (Registration No. 333-53491).) |
| 4.02 | Form of Indenture, among American Axle & Manufacturing, Inc., American Axle & Manufacturing Holdings, Inc., as guarantor, certain subsidiary guarantors and U.S. Bank National Association, as trustee |
| | (Incorporated by reference to Exhibit 4.3 of Registration Statement on Form S-3 dated July 12, 2011.) |

| Number | Description of Exhibit |
|---|---|
| 4.03 | Indenture, dated as of November 3, 2011, among American Axle & Manufacturing, Inc., the Guarantors and U.S. Bank National Association, as trustee |
| | (Incorporated by Reference to Exhibit 4.1 of Current Report on Form 8-K dated October 31, 2011.) |
| 4.04 | Form of 6.50% Notes due 2027 |
| | (Incorporated by Reference to Exhibit 4.3 of Current Report on Form 8-K dated March 23, 2017.) |
| 4.05 | First Supplemental Indenture, dated March 23, 2017 among American Axle & Manufacturing, Inc., Alpha SPV I, Inc., American Axle & Manufacturing Holdings, Inc., certain subsidiary guarantors and U.S. Bank National Association, as trustee |
| | (Incorporated by reference to Exhibit 4.1 of Current Report on Form 8-K dated March 23, 2017.) |
| 4.06 | Second Supplemental Indenture, dated May 17, 2017 among American Axle & Manufacturing, Inc., Metaldyne Performance Group Inc., American Axle & Manufacturing Holdings, Inc. certain subsidiary guarantors and U.S. Bank National Association, as trustee |
| | (Incorporated by reference to Exhibit 4.1 of Current Report on Form 8-K dated May 17, 2017.) |
| 4.07 | Registration Rights Agreement, dated as of March 23, 2017, among American Axle & Manufacturing, Inc., certain subsidiary guarantors and J.P. Morgan Securities LLC, as representative of the Initial Purchasers, in respect of the 6.50% Senior Notes due 2027 |
| | (Incorporated by reference to Exhibit 10.2 of Current Report on Form 8-K dated March 23, 2017.) |
| 4.08 | Third Supplemental Indenture, dated March 23, 2018 among American Axle & Manufacturing, Inc., American Axle & Manufacturing Holdings, Inc., certain subsidiary guarantors signatory thereto and U.S. Bank National Association, as trustee |
| | (Incorporated by reference to Exhibit 4.1 of Current Report on Form 8-K dated March 26, 2018.) |
| 4.09 | Form of 6.25% Notes due 2026 |
| | (Incorporated by reference to Exhibit 4.1 of Current Report on Form 8-K dated March 27, 2018.) |
| 4.10 | Form of 6.875% Notes due 2028 |
| | (Incorporated by reference to Exhibit 4.1 of Current Report on Form 8-K dated June 12, 2020) |
| 4.11 | Form of 5.00% Notes due 2029 |
| | (Incorporated by reference to Exhibit 4.1 of Current Report on Form 8-K dated August 19, 2021) |
| *4.12 | Description of Registered Securities |
| 10.01 | Asset Purchase Agreement, dated February 18, 1994, between AAM, Inc. and GM, and all amendments thereto |
| | (Incorporated by reference to Exhibit 10.01 filed with American Axle & Manufacturing Holdings, Inc. Registration Statement on Form S-1 (Registration No. 333-53491).) |
| 10.02 | Lifetime Program Contract for GMT-900 Products, between GM and AAM, Inc. |
| | (Incorporated by reference to Exhibit 10.51 filed with American Axle & Manufacturing Holdings, Inc. Form 10-Q for the quarterly period ended June 30, 2003.) |
| ++10.03 | Letter Agreement dated April 22, 2004 by and between DaimlerChrysler Corporation and AAM, Inc. |
| | (Incorporated by reference to Exhibit 10.43 filed with American Axle & Manufacturing Holdings, Inc. Form 10-Q for the quarterly period ended June 30, 2004.) |

| Number | Description of Exhibit |
|---|---|
| ++10.04 | Letter Agreement between General Motors Corporation and American Axle & Manufacturing, Inc. dated June 29, 2007 |
| | (Incorporated by reference to Exhibit 99.1 of Current Report on Form 8-K dated June 29, 2007.) |
| 10.05 | Agreement between General Motors Corporation and American Axle & Manufacturing, Inc. dated May 3, 2008, as amended May 16, 2008 |
| | (Incorporated by reference to Exhibit 10.1 of Current Report on Form 8-K dated May 23, 2008.) |
| ++10.06 | Settlement and Commercial Agreement, dated as of September 16, 2009, among General Motors Company, American Axle & Manufacturing Holdings, Inc. and American Axle & Manufacturing, Inc. |
| | (Incorporated by reference to Exhibit 10.62 of Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2009.) |
| ‡10.07 | Form of Restricted Stock Unit Award Agreement for Board of Directors under the 2012 Omnibus Incentive Plan |
| | (Incorporated by reference to Exhibit 10.1 of Quarterly Report on Form 10-Q dated May 2, 2014.) |
| ‡10.08 | Employment Agreement dated as of August 1, 2015 by and between the Company and Michael K. Simonte |
| | (Incorporated by reference to Exhibit 10.1 of Current Report on Form 8-K dated July 31, 2015.) |
| ‡10.09 | Amended and Restated American Axle & Manufacturing Holdings, Inc. 2012 Omnibus Incentive Plan |
| | (Incorporated by reference to Exhibit 4.1 filed with American Axle & Manufacturing Holdings, Inc. Registration Statement on Form S-8 (Registration No. 333-220300).) |
| 10.10 | Credit Agreement dated as of April 6, 2017 among American Axle & Manufacturing Holdings, Inc., American Axle & Manufacturing, Inc., each financial institution party thereto as a lender and JPMorgan Chase Bank, N.A., as Administrative Agent |
| | (Incorporated by reference to Exhibit 10.1 of Current Report on Form 8-K dated April 12, 2017.) |
| 10.11 | Collateral Agreement dated as of April 6, 2017 among American Axle & Manufacturing Holdings, Inc., American Axle & Manufacturing, Inc., certain subsidiaries of American Axle & Manufacturing Holdings, Inc. identified therein and JPMorgan Chase Bank, N.A., as Collateral Agent |
| | (Incorporated by reference to Exhibit 10.2 of Current Report on Form 8-K dated April 12, 2017.) |
| 10.12 | Guarantee Agreement dated as of April 6, 2017 among American Axle & Manufacturing Holdings, Inc., American Axle & Manufacturing, Inc., certain subsidiaries identified therein and JPMorgan Chase Bank, N.A., as Administrative Agent |
| | (Incorporated by reference to Exhibit 99.1 of Current Report on Form 8-K dated April 12, 2017.) |
| ‡10.13 | Amendment to American Axle & Manufacturing Holdings, Inc. Executive Deferred Compensation Plan (as amended and restated effective January 1, 2005, and as further amended prior to the date hereof) |
| | (Incorporated by reference to Exhibit 10.2 of Current Report on Form 8-K dated April 16, 2018.) |
| ‡10.14 | Amended and Restated Employment Agreement dated February 19, 2015 by and between the Company and David C. Dauch |
| | (Incorporated by reference to Exhibit 10.1 of Current Report on Form 8-K dated February 26, 2015.) |
| ‡10.15 | Amendments to the Amended and Restated Employment Agreement dated February 15, 2015 by and between the Company and David C. Dauch |
| | (Incorporated by reference to Exhibit 10.5 of Current Report on Form 8-K dated April 16, 2018.) |

| Number | Description of Exhibit |
|---|---|
| ‡10.16 | Amendment to the Employment Agreement dated August 1, 2015 by and between the Company and Michael K. Simonte (Incorporated by reference to Exhibit 10.6 of Current Report on Form 8-K dated April 16, 2018.) |
| ‡10.17 | American Axle & Manufacturing Holdings, Inc. Change in Control Plan (Incorporated by reference to Exhibit 10.1 of Quarterly Report on Form 10-Q dated August 3, 2018.) |
| ‡10.18 | American Axle & Manufacturing, Inc. Amended and Restated Supplemental Executive Retirement Program Document (Incorporated by reference to Exhibit 10.29 of Annual Report on Form 10-K dated February 15, 2019) |
| ‡10.19 | Form of Performance Unit Award (Free Cash Flow) for Executive Officers under the 2018 Omnibus Incentive Plan (Incorporated by reference to Exhibit 10.1 of Current Report on Form 8-K dated March 8, 2019) |
| ‡10.20 | Form of Performance Share Award (Relative TSR) for Executive Officers under the 2018 Omnibus Incentive Plan (Incorporated by reference to Exhibit 10.2 of Current Report on Form 8-K dated March 8, 2019) |
| ‡10.21 | Form of Restricted Stock Unit Award Agreement (Cliff Vesting) for Executive Officers under the 2018 Omnibus Incentive Plan (Incorporated by reference to Exhibit 10.3 of Current Report on Form 8-K dated March 8, 2019) |
| 10.22 | First Amendment dated as of July 29, 2019, among American Axle & Manufacturing Holdings, Inc., American Axle & Manufacturing, Inc., certain subsidiaries of American Axle & Manufacturing Holdings, Inc. identified therein, each financial institution party thereto as a lender and JPMorgan Chase Bank, N.A., as Administrative Agent (Incorporated by reference to Exhibit 10.1 of Current Report on Form 8-K dated August 1, 2019) |
| 10.23 | Second Amendment dated as of April 29, 2020 among American Axle & Manufacturing Holdings, Inc., American Axle & Manufacturing, Inc., certain subsidiaries of American Axle & Manufacturing Holdings, Inc. identified therein (for the limited purpose specified therein), each financial institution party thereto and JPMorgan Chase Bank, N.A., as Administrative Agent (Incorporated by reference to Exhibit 10.1 of Current Report on Form 8-K dated May 4, 2020) |
| ‡10.24 | Form of Performance Share Award (Free Cash Flow) for Executive Officers under the 2018 Omnibus Incentive Plan (Incorporated by reference to Exhibit 10.1 of Quarterly Report on Form 10-Q dated May 8, 2020) |
| ‡10.25 | Form of Performance Unit Award (Free Cash Flow) for Executive Officers under the 2018 Omnibus Incentive Plan (Incorporated by reference to Exhibit 10.2 of Quarterly Report on Form 10-Q dated May 8, 2020) |
| ‡10.26 | Form of Restricted Stock Unit Award Agreement (Cliff Vesting) for Non-Employee Directors under the 2018 Omnibus Incentive Plan (Incorporated by reference to Exhibit 10.3 of Quarterly Report on Form 10-Q dated May 8, 2020) |
| ‡10.27 | American Axle & Manufacturing Holdings, Inc. Executive Retirement Savings Plan (Incorporated by reference to Exhibit 10.2 of Quarterly Report on Form 10-Q dated October 30, 2020) |

| Number | Description of Exhibit |
|---|---|
| ‡10.28 | Form of Performance Share Award (Free Cash Flow) for Executive Officers under the 2018 Omnibus Incentive Plan (Incorporated by reference to Exhibit 10.1 of Quarterly Report on Form 10-Q dated May 7, 2021 |
| ‡10.29 | Form of Performance Unit Award (Free Cash Flow) for Executive Officers under the 2018 Omnibus Incentive Plan (Incorporated by reference to Exhibit 10.2 of Quarterly Report on Form 10-Q dated May 7, 2021) |
| 10.30 | Agreement dated as of June 11, 2021, among American Axle & Manufacturing Holdings, Inc., American Axle & Manufacturing, Inc., certain subsidiaries of American Axle & Manufacturing Holdings, Inc. identified therein (for the limited purpose specified therein), each financial institution party thereto as a lender and JPMorgan Chase Bank, N.A., as Administrative Agent (Incorporated by reference to Exhibit 10.1 of Current Report on Form 8-K dated June 14, 2021) |
| ‡10.31 | Amended and Restated American Axle & Manufacturing Holdings, Inc. 2018 Omnibus Incentive Plan (Incorporated by reference to Exhibit 4.1 of Registration Statement S-8 dated June 30, 2021 (Registration No. 333-257572).) |
| 10.32 | Amended and Restated Credit Agreement, dated as of March 11, 2022 among American Axle & Manufacturing Holdings, Inc., American Axle & Manufacturing, Inc., certain subsidiaries of American Axle & Manufacturing Holdings, Inc. identified therein (for the limited purpose specified therein), each financial institution party thereto as a lender and JPMorgan Chase Bank, N.A., as Administrative Agent (Incorporated by reference to Exhibit 10.1 of Current Report on Form 8-K/A dated March 11, 2022) |
| 10.33 | Refinancing Facility Agreement No. 1, dated as of December 13, 2022 among American Axle & Manufacturing Holdings, Inc., American Axle & Manufacturing, Inc., certain subsidiaries of American Axle & Manufacturing Holdings, Inc. identified therein, each financial institution party thereto as a lender and JPMorgan Chase Bank, N.A., as Administrative Agent (Incorporated by reference to Exhibit 10.1 of Current Report on Form 8-K dated December 13, 2022) |
| ‡*10.34 | American Axle & Manufacturing Holdings, Inc. Amended and Restated Executive Officer Severance Plan |
| ‡*10.35 | American Axle & Manufacturing Holdings, Inc. Amended and Restated 2018 Omnibus Incentive Plan - 2022 Incentive Compensation Program for Executive Officers |
| *21 | Subsidiaries of the Registrant |
| *22 | Subsidiary Guarantors and Issuers of Guaranteed Securities |
| *23 | Consent of Independent Registered Public Accounting Firm |
| *31.1 | Certification of Chief Executive Officer Pursuant to Rule 13a-14(a) of the Securities Exchange Act |
| *31.2 | Certification of Chief Financial Officer Pursuant to Rule 13a-14(a) of the Securities Exchange Act |
| *32 | Certifications of Chief Executive Officer and Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 |

| Number | Description of Exhibit |
|---|---|
| 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 | XBRL Taxonomy Extension Schema Document |
| **101.CAL | XBRL Taxonomy Extension Calculation Linkbase Document |
| **101.LAB | XBRL Taxonomy Extension Label Linkbase Document |
| **101.PRE | XBRL Extension Presentation Linkbase Document |
| **101.DEF | XBRL Taxonomy Extension Definition Linkbase Document |
| **104 | Cover Page Interactive Data File (formatted in Inline XBRL contained in Exhibit 101) |
| | (All other exhibits are not applicable.) |

++ Confidential Treatment Request Granted by the SEC
‡ Reflects Management or Compensatory Contract
* Shown only in the original filed with the Securities and Exchange Commission
** Submitted electronically with the original filed with the Securities and Exchange Commission

**Schedule II - VALUATION AND QUALIFYING ACCOUNTS**

| | Balance at Beginning of Period | Additions - Charged to Costs and Expenses | Acquisitions and Disposals (a) | Deductions | Balance At End of Period |
|---|---|---|---|---|---|
| | | | *(in millions)* | | |
| **Year Ended December 31, 2020:** | | | | | |
| Allowance for credit losses[1] | $ 8.0 | $ 7.0 | $ — | $ 10.5 | $ 4.5 |
| Allowance for deferred taxes[3] | 196.0 | 19.8 | — | 7.8 | 208.0 |
| Inventory valuation allowance[2] | 20.5 | 31.7 | — | 28.8 | 23.4 |
| **Year Ended December 31, 2021:** | | | | | |
| Allowance for credit losses[1] | 4.5 | 7.8 | — | 10.1 | 2.2 |
| Allowance for deferred taxes[3] | 208.0 | 2.7 | — | 9.0 | 201.7 |
| Inventory valuation allowance[2] | 23.4 | 17.7 | — | 22.5 | 18.6 |
| **Year Ended December 31, 2022:** | | | | | |
| Allowance for credit losses[1] | 2.2 | 10.1 | 1.0 | 4.0 | 9.3 |
| Allowance for deferred taxes[3] | 201.7 | 9.5 | 7.8 | 1.5 | 217.5 |
| Inventory valuation allowance[2] | 18.6 | 35.7 | 4.9 | 31.7 | 27.5 |

*(a) Amounts represent reserves recognized in conjunction with our acquisition of Tekfor in 2022.*

*(1) Uncollectible accounts charged off, net of recoveries.*

*(2) Primarily relates to write-offs of excess and obsolete inventories, as well as adjustments for physical quantity discrepancies.*

*(3) Primarily reflects new net operating losses established with a corresponding valuation allowance at certain foreign locations, as well as an increase in valuation allowance related to certain U.S. federal tax attributes, partially offset by adjustments to previously established valuation allowances and foreign currency translation.*

**Signatures**

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

**AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.**
**(Registrant)**

/s/ James G. Zaliwski
James G. Zaliwski
Chief Accounting Officer

Date: February 17, 2023

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

| Signature | Title | Date |
|---|---|---|
| /s/ David C. Dauch<br>David C. Dauch | Chairman of the Board &<br>Chief Executive Officer | February 17, 2023 |
| /s/ Christopher J. May<br>Christopher J. May | Executive Vice President &<br>Chief Financial Officer | February 17, 2023 |
| /s/ Elizabeth A. Chappell<br>Elizabeth A. Chappell | Director | February 17, 2023 |
| /s/ William L. Kozyra<br>William L. Kozyra | Director | February 17, 2023 |
| /s/ Peter D. Lyons<br>Peter D. Lyons | Director | February 17, 2023 |
| /s/ James A. McCaslin<br>James A. McCaslin | Director | February 17, 2023 |
| /s/ William P. Miller II<br>William P. Miller II | Director | February 17, 2023 |
| /s/ Herbert K. Parker<br>Herbert K. Parker | Director | February 17, 2023 |
| /s/ Sandra E. Pierce<br>Sandra E. Pierce | Director | February 17, 2023 |
| /s/ John F. Smith<br>John F. Smith | Director | February 17, 2023 |
| /s/ Samuel Valenti III<br>Samuel Valenti III | Director | February 17, 2023 |

**Exhibit 4.12**

**DESCRIPTION OF COMMON STOCK REGISTERED UNDER SECTION 12 OF THE SECURITIES EXCHANGE ACT OF 1934**

*As of February 14, 2023, American Axle & Manufacturing Holdings, Inc. ("Holdings," "our"), has one class of securities registered under Section 12 of the Securities Exchange Act of 1934, as amended: our common stock.*

*The following is a summary description of our common stock and does not purport to be complete. For a complete description of the terms and provisions of our common stock refer to our Amended and Restated Certificate of Incorporation (our "Certificate of Incorporation") and Third Amended and Restated Bylaws (our "Bylaws"). This summary description is qualified in its entirety by reference to these documents, each of which is included as an exhibit to the Annual Report on Form 10-K to which this exhibit is a part.*

**Authorized Capital Stock**

American Axle & Manufacturing Holdings, Inc.'s ("Holdings") authorized capital stock consists of (i) 150,000,000 shares of common stock, par value $0.01 per share, of which 114,579,669 shares were outstanding as of February 14, 2023, (ii) 10,000,000 shares of preferred stock, par value $0.01 per share (the "preferred stock"), of which no shares are issued and outstanding and (iii) 40,000,000 shares of series common stock, par value $0.01 per share (the "series common stock"), of which no shares are issued and outstanding.

***Voting Rights***

Holders of common stock are entitled to one vote per share on all matters to be voted upon by the stockholders. The holders of common stock do not have cumulative voting rights in the election of directors.

***Dividends***

Holders of common stock are entitled to receive dividends if, as and when dividends are declared from time to time by Holdings' Board of Directors ("Board") out of funds legally available therefor, after payment of dividends required to be paid on outstanding preferred stock or series common stock (as described below), if any.

***Liquidation, Redemption and Preemptive Rights***

In the event of liquidation, dissolution or winding up of Holdings, the holders of common stock are entitled to share ratably in all assets remaining after payment of liabilities and accrued but unpaid dividends and liquidation preferences on any outstanding preferred stock or series common stock of Holdings. The common stock has no preemptive or conversion rights and is not subject to further calls or assessment by Holdings. There are no redemption or sinking fund provisions applicable to the common stock.

***Listing***

Holdings' common stock is listed on the New York Stock Exchange under the symbol "AXL."

***Registrar and Transfer Agent***

The registrar and transfer agent for the common stock is Computershare Trust Co. of New York.

**Preferred Stock and Series Common Stock**

The Certificate of Incorporation authorizes the Board of Directors to establish one or more series of preferred stock and series common stock and to determine, with respect to any series of preferred stock or series common stock, the terms and rights of such series. The authorized shares of preferred stock and series common stock, as well as shares of common stock, will be available for issuance without further action by Holdings' stockholders, unless such action is required by applicable law or the rules of any stock exchange or automated quotation system on which Holdings' securities may be listed or traded.

Although the Board has no intention at the present time of doing so, it could issue a series of preferred stock or series common stock that could, depending on the terms of such series, impede the completion of a merger, tender offer or other takeover attempt. The Board will make any determination to issue such shares based on its judgment as to the best interests of Holdings and its stockholders. The Board, in so acting, could issue preferred stock or series common stock having terms that could discourage an acquisition attempt or other transaction that some, or a majority, of Holdings' stockholders might believe to be in their best interests or in which stockholders might receive a premium for their stock over the then-current market price of such stock.

**Certificate of Incorporation; Bylaws**

The Certificate of Incorporation and the Bylaws contain certain provisions that could make more difficult the acquisition of Holdings by means of a tender offer, a proxy contest or otherwise.

***Classified Board***

The Certificate of Incorporation provides that Holdings' Board of Directors will be divided into three classes of directors, with the classes to be as nearly equal in number as possible. As a result, approximately one-third of the Board of Directors will be elected each year. The classification of directors will have the effect of making it more difficult for stockholders to change the composition of Holdings' Board. The Certificate of Incorporation provides that, subject to any rights of holders of preferred stock or series common stock to elect additional directors under specified circumstances, the number of directors will be fixed in the manner provided in the Bylaws. The Certificate of Incorporation and the Bylaws provide that the number of directors will be fixed from time to time exclusively pursuant to a resolution adopted by the Board, but must consist of not less than three directors. In addition, the Certificate of Incorporation provides that, subject to any rights of holders of preferred stock, and unless the Board otherwise determines, any vacancies will be filled only by the affirmative vote of a majority of the remaining directors, though less than a quorum.

***Removal of Directors***

Under the Delaware General Corporation Law ("DGCL"), unless otherwise provided in the Certificate of Incorporation, directors serving on a classified board may be removed by the stockholders only for cause. In addition, the Certificate of Incorporation and the Bylaws provide that directors may be removed only for cause and only upon the affirmative vote of holders of at least 75% of the voting power of all the then outstanding shares of stock entitled to vote generally in the election of directors ("Voting Stock"), voting together as a single class.

***Stockholder Action***

The Certificate of Incorporation and the Bylaws provide that stockholder action can be taken only at an annual or special meeting of stockholders and may not be taken by written consent in lieu of a meeting. The Certificate of Incorporation and the Bylaws provide that special meetings of stockholders can be called only by Holdings' Chief Executive Officer or pursuant to a resolution adopted by the Board. Stockholders are not permitted to call a special meeting or to require that the Board call a special meeting of stockholders. Moreover, the business permitted to be conducted at any special meeting of stockholders is limited to the business brought before the meeting pursuant to the notice of meeting given by Holdings.

***Advance Notice Procedures***

The Bylaws establish an advance notice procedure for stockholders to make nominations of candidates for election as directors, or bring other business before an annual or special meeting of stockholders of Holdings (the "Stockholders Notice Procedure"). The Stockholders Notice Procedure provides that only persons who are nominated by, or at the direction of the Board of Directors, the Chairman of the Board, or by a stockholder who has given timely written notice to the Secretary of Holdings prior to the meeting at which directors are to be elected, will be eligible for election as directors of Holdings.

***Proxy Access***

The Bylaws contain a proxy access provision which allows eligible stockholders who comply with the requirements set forth in the Bylaws to include their own director nominees in Holdings' proxy statement along with the candidates nominated by the Board. Pursuant to the proxy access provision, a stockholder, or group of up to 20 stockholders, owning an aggregate of 3% or more of Holdings' outstanding capital stock continuously for at least three years, may nominate a candidate for election to the Board and such candidate will be included in Holdings' proxy statement for the applicable annual meeting of Holdings' stockholders. Holdings will not be required, however, to include in its proxy statement more stockholder nominees than that number constituting the greater of (i) two and (ii) 20% of the total number of directors of Holdings then serving on the Board.

***Amendment***

The Certificate of Incorporation provides that the affirmative vote of the holders of at least 75% of the voting power of the outstanding shares of Voting Stock, voting together as a single class, is required to amend provisions of the Certificate of Incorporation relating to the prohibition of stockholder action without a meeting; the number, election and term of Holdings' directors; and the removal of directors. The Certificate of Incorporation further provides that the Bylaws may be amended by the Board or by the affirmative vote of the holders of at least 75% of the outstanding shares of Voting Stock, voting together as a single class.

**AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.**

**Amended and Restated Executive Officer Severance Plan**

1. Purpose. The purpose of the American Axle & Manufacturing Holdings, Inc. Amended and Restated Executive Officer Severance Plan (the "*Plan*") is to advance the interests of American Axle & Manufacturing Holdings, Inc. (the "*Company*," and together with its subsidiaries, the "*Company Group*") and its shareholders by providing financial protection to selected executive officers and certain other employees as determined by the Administrator in its sole discretion from time to time upon termination of a participant's employment in specific circumstances and to attract and retain talent.

2. Definitions. For purposes of the Plan, the following words and phrases have the meanings specified below:

2.1 "*Accountants*" has the meaning set forth in Section 9.2.

2.2 "*Administrator*" has the meaning set forth in Section 3.

2.3 "*Base Salary*" with respect to a Participant means the rate of annual base salary paid to the Participant by the Company Group immediately preceding the Participant's Date of Separation.

2.4 "*Benefit Continuation*" has the meaning set forth in Section 6.2(d).

2.5 "*Board*" means the Board of Directors of the Company.

2.6 "*Bonus*" with respect to a Participant means the target annual bonus amount for the year in which the Participant's Date of Separation occurs.

2.7 "*Cause*" means any one or more of the following: "Cause" means with respect to a Participant, unless otherwise defined in the employment agreement of the Participant, any of the following: (a) the Participant's willful and continued failure or refusal to perform the duties reasonably required of him or her to the Company Group; (b) the Participant's conviction of, or plea of *nolo contendere* to any felony or another crime involving dishonesty or moral turpitude or which reflects negatively upon the Company Group or otherwise impairs or impedes its operations; (c) the Participant's engagement in any willful misconduct, gross negligence, act of dishonesty, violence or threat of violence (including any violation of federal securities laws) that is injurious to the Company Group; (d) the Participant's material breach of any applicable agreement with or policy of the Company Group; (e) the Participant's material failure to comply with any applicable laws and regulations or professional standards relating to the business of the Company Group; or (f) any other misconduct by the Participant that is injurious to the financial condition or business reputation of the Company Group.

2.8 "*Code*" means the Internal Revenue Code of 1986, as it may be amended from time to time and as interpreted by regulations and rulings issued pursuant to the Code. Any references to a specific provision shall be deemed to include references to any successor Code provision.

2.9 "*Committee*" means the Compensation Committee of the Board.

2.10 "*Covered Payments*" has the meaning set forth in Section 9.1.

2.11 "*Date of Separation*" means, with respect to a Participant, the date on which a Participant incurs a termination of employment that is a "separation from service" within the meaning of Section 409A of the Code.

2.12 "*Exchange Act*" means the Securities Exchange Act of 1934, as amended from time to time, or any successor act thereto.

2.13 "*Excise Tax*" has the meaning set forth in Section 9.1.

2.14 "*Good Reason*" means any one or more of the following actions or omissions:

(a) any material reduction in a Participant's annual base salary or bonus opportunity as in effect immediately prior to the reduction; or

(b) the relocation (other than by mutual agreement) of the office at which the Participant is to perform the majority of his or her duties to a location more than 50 miles from the location at which the Participant performed such duties prior to the relocation;

provided, however, that the Participant must provide the Company with (a) 45 days advance notice of termination in writing and (b) notice of the conduct that is the basis for the potential Good Reason termination in writing within 90 days of its initial existence, and such notice shall describe the conduct the Participant believes to constitute Good Reason. The Company shall have 30 days to cure such conduct upon receipt of the notice of termination from the Participant. If the Company cures the conduct that is the basis for the potential termination for Good Reason within such 30-day period, the Participant's notice of termination shall be deemed withdrawn. If the Participant does not give notice to the Company as described in this Section 2.15 within 90 days after an event giving rise to Good Reason, the Participant's right to claim Good Reason termination on the basis of such event shall be deemed waived.

2.15 "*Participant*" has the meaning set forth in Section 4.

2.16 "*Plan*" means this Executive Officer Severance Plan, as described in this document and as amended from time to time.

2.17 "*Release*" has the meaning set forth in Section 7.

2.18 "*Severance Multiple*" means the number applicable to a Participant's position as set forth on Exhibit A, as amended from time to time.

2.19 "*Severance Period*" has the meaning set forth in Section 6.2.

3. Administration. The Plan shall be administered by the Committee (the "*Administrator*"). Subject to the provisions of the Plan, the Administrator shall have exclusive authority to interpret and administer the Plan, to establish, amend and rescind appropriate rules and regulations relating to the Plan, to delegate some or all of its authority under the Plan to the extent permitted by law, and to take all such steps and make all such determinations in connection with the Plan and the benefits granted pursuant to the Plan as it may deem necessary or advisable. Any decision of the Administrator in the interpretation and administration of the Plan, as described herein, shall lie within its sole and absolute discretion and shall be final, conclusive and binding on all parties concerned. Except to the extent it would violate applicable law or rules, the Administrator may delegate all or a portion of its authority for administering the Plan to an officer or officers of the Company. To the extent so delegated, the term "Administrator" hereunder shall be deemed to refer to such officer or officers. The Administrator shall take such actions it deems necessary or desirable to ensure that such officer or officers have sufficient and appropriate authority for carrying out the intent and purpose of the Plan.

4. Eligibility. The participants under the Plan shall be limited to (i) executive officers of the Company, other than those executive officers who have an employment agreement or other separate arrangement providing for severance benefits upon a termination of employment (the

*"Executive Officer Participants"*), and (ii) certain other employees of the Company Group as determined by the Administrator in its sole discretion from time to time (the *"Associate Participants"* and, together with the Executive Officer Participants, the *"Participants"*). Individuals who qualify under the definition of Executive Officer Participant under this Section 4 shall automatically, without any independent action by the Administrator, become eligible to and shall participate in the Plan as Participants as of such date. In the event that an individual no longer meets the definition of Executive Officer Participant, he or she shall automatically, without any independent action by the Administrator, no longer be eligible to participate in the Plan and such individual's participation shall automatically, without any independent action by the Administrator, be terminated as of such date, subject to Section 15 of the Plan; provided, that for the avoidance of doubt, the Administrator may in its sole discretion elect to designate such individual as an Associate Participant. The Administrator from time to time in its sole discretion shall select and notify any employees of the Company who will participate as Participants in the Plan. Individuals who are designated by the Administrator as Associate Participants in accordance with this Section 4 and who undergo a change in title or job grade other than for reason of a promotion shall automatically, without any independent action by the Administrator, no longer be eligible to participate in the Plan and such individual's participation shall automatically, without any independent action by the Administrator, be terminated as of such date, subject to Section 15 of the Plan; provided, that for the avoidance of doubt, the Administrator may in its sole discretion elect to treat any such individual differently in accordance with the terms of the Plan.

5. No Effect on Equity Awards. The Plan does not alter or amend any vesting or other terms and conditions of any equity-based compensation awards under the Company's equity incentive compensation plans (including, but not limited to, the Company's 2012 Omnibus Incentive Plan or 2018 Omnibus Incentive Plan), which shall be governed by the terms and conditions set forth in the equity incentive compensation plans and separate written grant agreements.

6. Severance Benefits.

6.1 No severance benefits shall be payable under the Plan unless the Participant's employment with the Company is involuntarily terminated by the Company without Cause or by the Participant's resignation with Good Reason (a "*Qualifying Event*").

6.2 Upon a Qualifying Event, subject to the provisions of the Plan (including compliance with the Restrictive Covenants) and timely execution and non-revocation of a Release, the Participant shall receive the following benefits:

(a) Severance. A cash amount equal to the Participant's Base Salary plus Bonus multiplied by the applicable Severance Multiple; provided, however, that if the Participant has been continuously employed by the Company for less than one year prior to the Qualifying Event, then the Participant shall be entitled to a cash amount equal to one half of the sum of Participant's Base Salary plus Bonus; in either case, payable in a lump sum on the 60th day following the Date of Separation;

(b) Annual Bonus. Any unpaid annual bonus for any completed performance year immediately preceding the year in which the Qualifying Event occurs as determined based on actual performance, payable to the Participant on the date such bonus would have been paid had the Participant remained employed with the Company, but in no event later than March 15th of the year in which the Qualifying Event occurs, notwithstanding anything to the contrary in an applicable plan or award document;

(c) Pro rata Annual Bonus. A cash amount equal to the annual bonus for the performance year in which the Qualifying Event occurs, determined based on actual performance and then prorated based on the number of days in such performance year elapsed through the date of the Qualifying Event, payable to

the Participant on the date such bonus would have been paid had the Participant remained employed with the Company, but in no event later than March 15th of the year following the year in which the Qualifying Event occurs, notwithstanding anything to the contrary in an applicable plan or award document; provided, however, that if the Participant has been continuously employed by the Company for less than one year prior to the Qualifying Event, then the Participant shall not be entitled to a payment under this paragraph (c);

(d) Medical Coverage. Upon a Qualifying Event, the Participant (and his or her eligible dependents) shall be entitled to continued participation in the Company's medical plans, as in effect from time to time, at then-existing participation and coverage levels for active similarly situated employees (the "*Benefit Continuation*") for the number of months equal to 12 multiplied by the applicable Severance Multiple (such number of months, the "*Severance Period")*. In the event that such Benefit Continuation is not permitted or advisable or the Company, in its sole discretion, elects, in lieu of Benefit Continuation, the Company shall pay to the Participant a cash amount (in the Company's determination) equal to the then-current difference between the Participant's monthly medical insurance cost immediately prior to the applicable Qualifying Event and the monthly cost for COBRA multiplied by the number of months remaining in the Severance Period, payable in three separate semi-annual installments. Any obligation to provide Benefit Continuation or payment in lieu of such Benefit Continuation shall cease upon the earlier of (i) the Participant becoming eligible to receive group health benefits under a program of a subsequent employer or (ii) the Participant not complying with the provisions of this Plan. For the avoidance of doubt, the Participant (and his or her eligible dependents) shall be responsible for paying all employee contributions, deductibles and other cost-sharing items under such plans. Nothing in this Section 6.2 shall be construed to impair or reduce a Participant's rights under COBRA or other applicable law.

(e) Outplacement. The Participant shall be entitled to reimbursement for outplacement service costs incurred (which shall include appropriate itemization and substantiation of expenses incurred) during the period from the Participant's Date of Separation through the end of the applicable Severance Period, subject to a maximum amount of $20,000; provided, that such claims for reimbursement are submitted to the Company within 90 days following the date of invoice.

All payments under this Section 6.2 are subject to the Participant executing the Release and the Release becoming effective and irrevocable in its entirety. If the Release does not become effective and irrevocable prior to the 60th day following the Date of Separation, the Company shall have no obligation to make any payments or provide benefits pursuant to the Plan.

6.3 General. Nothing in this Section 6 shall be construed to impair or reduce a Participant's right to any other accrued but unpaid compensation or benefits nor create a right or entitlement to any additional senior executive retirement benefit.

7. Release and Restrictive Covenant.

7.1 Release. A Participant shall only be entitled to receive the payments and benefits pursuant to Section 6 if he or she shall have executed and delivered (and not revoked) a release of claims against the Company (and its officers, directors, employees, affiliates, stockholders, etc.) substantially in the form attached hereto as Exhibit B (the *"Release"*), and such Release is in full force and effect by the 60th day following the Date of Separation. Should the Participant revoke all or any portion of the Release within any allowed revocation period, then the Participant will be treated hereunder as if he or she did not execute the Release.

7.2 Restrictive Covenant. During the Severance Period, the Participant shall not, without the prior written consent of the Company, directly or indirectly, and whether as principal or investor or as an employee, officer, director, manager, partner, consultant, agent or otherwise, alone or in association with any other person, firm, corporation or other business organization, carry on a business competitive with the Company in any geographic area in which the Company Group has engaged in business, or is reasonably expected to engage in business during such Severance Period (including, without limitation, any area in which any customer of the Company Group may be located); provided, however, that nothing herein shall limit the Participant's right to own not more than 1% of any of the debt or equity securities of any business organization that is then filing reports with the Securities and Exchange Commission pursuant to Section 13 or 15(d) of the Exchange Act (the *"Restrictive Covenant"*). For the avoidance of doubt, (i) amounts payable pursuant to Section 6.2 are consideration for the Participant's compliance with this Restrictive Covenant and (ii) the Restrictive Covenant shall be effective for the full Severance Period irrespective of whether any payments under Section 6.2 are terminated prior to the end of the Severance Period.

7.3 Breach. If a Participant breaches any provision of the Release or the Restrictive Covenant, the Administrator may determine that the Participant (i) will forfeit any unpaid portion of the payments provided pursuant to the Plan and (ii) will repay to the Company any amounts previously paid to him or her pursuant to the Plan.

8. No Funding. Nothing herein contained shall require or be deemed to require the Company to segregate, earmark or otherwise set aside any funds or other assets to provide for any payments made hereunder. The rights of any Participant under the Plan shall be solely those of a general creditor of the Company. However, in the event the Company foresees payment under the Plan, the Company may deposit cash or property, or both, equal in value to all or a portion of the benefits anticipated to be payable hereunder for any or all Participants into a trust, the assets of which are to be distributed at such times as are otherwise provided for in the Plan and are subject to the rights of the general creditors of the Company.

9. Section 280G.

9.1 Notwithstanding any other provision of the Plan or any other plan, arrangement or agreement to the contrary, if any of the payments or benefits provided or to be provided by the Company or its affiliates to a Participant or for the Participant's benefit pursuant to the terms of the Plan or otherwise (*"Covered Payments"*) constitute parachute payments within the meaning of Section 280G of the Code and would, but for this Section 9, be subject to the excise tax imposed under Section 4999 of the Code (or any successor provision thereto) or any similar tax imposed by state or local law or any interest or penalties with respect to such taxes (collectively, the *"Excise Tax"*), then the Covered Payments shall be payable either (i) in full or (ii) reduced to the minimum extent necessary to ensure that no portion of the Covered Payments is subject to the Excise Tax, whichever of the foregoing (i) or (ii) results in the Participant's receipt on an after-tax basis of the greatest amount of payments and benefits after taking into account the applicable federal, state, local and foreign income, employment and excise taxes (including the Excise Tax). Any such reduction shall be made by the Company in its sole discretion consistent with the requirements of Section 409A of the Code.

9.2 Any determination required under this Section 9 shall be made in writing in good faith by the accounting firm that was the Company's independent auditor immediately before the Qualifying Event (the *"Accountants"*). The Company and the Participant shall provide the Accountants with such information and documents as the Accountants may reasonably request in order to make a determination under this Section 9. The Company shall be responsible for all fees and expenses of the Accountants.

10. Section 409A. Notwithstanding anything to the contrary contained in the Plan, the payments and benefits provided under the Plan are intended to comply with or be exempt from Section 409A of

the Code, and the provisions of the Plan shall be interpreted or construed consistently with that intent. The Administrator may modify the payments and benefits under the Plan at any time solely as necessary to avoid adverse tax consequences under Section 409A; provided, however, that this Section 10 shall not create any obligation on the part of the Administrator to make such modifications or take any other action.

10.1 It is intended that the terms "termination" and "termination of employment" as used herein shall constitute a "separation from service" within the meaning of Section 409A.

10.2 Anything in the Plan to the contrary notwithstanding, each payment of compensation made to a Participant shall be treated as a separate and distinct payment from all other such payments for purposes of Section 409A.

10.3 In no event may a Participant be permitted to control the year in which any payment occurs.

10.4 Anything in the Plan to the contrary notwithstanding, if a Participant is a "specified employee" (within the meaning of Treasury Regulation Section 1.409A-1(i)) on the date of the Participant's termination of employment, then any payment or benefit which would be considered "nonqualified deferred compensation" within the meaning of Section 409A that the Participant is entitled to receive upon the Participant's termination of employment and which otherwise would be payable during the six-month period immediately following the Participant's termination of employment will instead be paid or made available on the first day of the seventh month following the Participant's termination of employment (or, if earlier, the date of the Participant's death).

10.5 With regard to any provision herein that provides for reimbursement of costs and expenses or in-kind benefits, except as permitted by Section 409A: (i) the right to reimbursement or in-kind benefits shall not be subject to liquidation or exchange for another benefit; (ii) the amount of expenses eligible for reimbursement, or in-kind benefits, provided during any taxable year shall not affect the expenses eligible for reimbursement, or in-kind benefits to be provided, in any other taxable year; and (iii) such payments shall be made on or before the last day of the Participant's taxable year following the taxable year in which the expense occurred, or such earlier date as required hereunder.

11. Clawback. Any amounts payable under the Plan are subject to any policy providing for clawback, recoupment or recovery of amounts that were paid to the Participant as established from time to time by the Committee. The Company shall make any determination for clawback, recoupment or recovery in its sole discretion and in accordance with any such policy and applicable law or regulation.

12. Withholding. The Company shall be entitled to withhold from payments to or on behalf of the Participant taxes and other authorized deductions.

13. Governing Law. The Plan shall be construed, interpreted and governed in accordance with the laws of the State of Michigan, without giving effect to the principles of conflicts of law.

14. Effect on Other Plans. The Plan supersedes in all respects any other severance benefit plans, arrangements or policies of the Company that apply to Participants upon a Qualifying Event, but does not supersede (i) employment agreements between an employee and the Company Group and (ii) to the extent applicable, the Company Executive Officer Change in Control Plan. No Participant shall be eligible to receive severance benefits under more than one severance arrangement of the Company (whether through an employment agreement or a benefit plan) at any time. Notwithstanding the foregoing, the Company and the Board reserve the right to adhere to other policies and practices that may be in effect for other groups of employees.

15. Amendment, Modification and Termination. The Plan (including Exhibit A) may be modified, amended or terminated at any time by the Administrator without notice to Participants.

16. No Employment Rights. Neither the Plan nor the benefits hereunder shall be a term of the employment of any employee, and the Company Group shall not be obligated in any way to continue the Plan. The terms of the Plan shall not give any employee the right to be retained in the employment of the Company Group.

17. Effective Date and Term. The Plan became effective as of April 10, 2018, and was first amended effective November 2, 2022.

**Exhibit A**

**Severance Multiples**

| Participants | Applicable Severance Multiple |
|---|---|
| Executive Vice President/Chief Financial Officer<br>Chief Operating Officer<br>Senior Vice President Human Resources | 1.5 |
| Other Executive Officer Participants | 1* |
| Associate Participant | As determined by the Administrator |

* Provided that the Administrator may set a different Severance Multiple for an Executive Officer Participant.

For the avoidance of doubt, notwithstanding an employee's title being listed on the table above, such employee is not eligible to participate in this Plan if he or she is subject to an employment agreement providing for severance benefits.

**Exhibit B**

**Form of Release**

FORM OF WAIVER AND MUTUAL RELEASE

This Waiver and Mutual Release, dated as of _____ (this "Release"), by and between [NAME] (the "Participant") and American Axle & Manufacturing Holdings, Inc., a Delaware corporation (the "Company").

WHEREAS, the Participant participates in the Company's Executive Officer Severance Plan (the "Plan"); and

WHEREAS, pursuant to Section 7 of the Plan, the Participant has agreed to execute and deliver a release and waiver of claims of the type and nature set forth herein as a condition to his or her entitlement to certain payments and benefits upon a Qualifying Event (as defined in the Plan), effective as of _____ (the "Termination Date").

NOW, THEREFORE, in consideration of the premises and mutual promises herein contained and for other good and valuable consideration received or to be received in accordance with the terms of the Plan, the Participant and the Company agree as follows:

1. Return of Property. On or prior to the Termination Date, the Participant represents and warrants that he or she will return all property made available to him in connection with his or her service to the Company, including, without limitation, credit cards, any and all records, manuals, reports, papers and documents kept or made by the Participant in connection with his or her employment as an officer or employee of the Company and its subsidiaries and affiliates, all computer hardware or software, cellular phones, files, memoranda, correspondence, vendor and customer lists, financial data, keys and security access cards.

2. Participant Release.

(a) In consideration of the payments and benefits provided to the Participant under the Plan and after consultation with counsel, the Participant and each of the Participant's respective heirs, executors, administrators, representatives, agents, successors and assigns (collectively, the "Participant Parties") hereby irrevocably and unconditionally release and forever discharge the Company and its subsidiaries and affiliates and each of their respective officers, employees, directors, shareholders and agents ("Company Parties") from any and all claims, actions, causes of action, rights, judgments, obligations, damages, demands, accountings or liabilities of whatever kind or character (collectively, "Claims"), including, without limitation, any Claims under any federal, state, local or foreign law, that the Participant Parties may have, or in the future may possess, arising out of (i) the Participant's employment relationship with and service as an employee, officer or director of the Company, and the termination of such relationship or service, and (ii) any event, condition, circumstance or obligation that occurred, existed or arose on or prior to the date hereof; provided, however, that the Participant does not release, discharge or waive (w) any rights to payments and benefits provided under the Plan that are contingent upon the execution by the Participant of this Release, (x) any right the Participant may have to enforce this Release or the Plan, (y) the Participant's eligibility for indemnification in accordance with the Company's certificate of incorporation, bylaws or other corporate governance document, or any applicable insurance policy, with respect to any liability he or she incurred or might incur as an employee, officer or director of the Company, or (z) any claims for accrued, vested benefits under any long-term incentive, employee benefit or retirement plan of the Company subject to the terms and conditions of such plan and applicable law including, without limitation, any such claims under the Employee Retirement Income Security Act of 1974, as amended. This Section 2(a) does not apply to any Claims that the Participant Parties may have as of the date the Participant signs this Release arising under the Federal Age Discrimination in Employment Act of 1967, as amended, and the applicable rules and regulations promulgated thereunder ("ADEA"). Claims arising under ADEA are addressed in Section 2(b) of this Release.

(b) Participant's Specific Release of ADEA Claims. In further consideration of the payments and benefits provided to the Participant under the Plan, the Participant Parties hereby unconditionally release and forever discharge the Company Parties from any and all Claims that the Participant Parties may have as of the date the Participant signs this Release arising under ADEA. By signing this Release, the Participant hereby acknowledges and confirms the following: (i) the Participant was advised by the Company in connection with his or her termination to consult with an attorney of his or her choice prior to signing this Release and to have such attorney explain to the Participant the terms of this Release, including, without limitation, the terms relating to the Participant's release of claims arising under ADEA, and the Participant has in fact consulted with an attorney; (ii) the Participant was given a period of not fewer than [21 days][45 days, to the extent required by ADEA,] to consider the terms of this Release and to consult with an attorney of his or her choosing with respect thereto; and (iii) the Participant knowingly and voluntarily accepts the terms of this Release. The Participant also understands that he or she has seven days following the date on which he or she signs this Release (the "Revocation Period") within which to revoke the release contained in this paragraph, by providing the Company a written notice of his or her revocation of the release and waiver contained in this paragraph. No such revocation by the Participant shall be effective unless it is in writing and signed by the Participant and received by the Company prior to the expiration of the Revocation Period.

3. Company Release. The Company, for itself and on behalf of the Company Parties, hereby irrevocably and unconditionally releases and forever discharges the Participant Parties from any and all Claims, including, without limitation, any Claims under any federal, state, local or foreign law, that the Company Parties may have, or in the future may possess, arising out of (a) the Participant's employment relationship with and service as an employee, officer or director of the Company, and the termination of such relationship or service, and (b) any event, condition, circumstance or obligation that occurred, existed or arose on or prior to the date hereof, excepting any Claim which would constitute or result from conduct by the Participant that would constitute a crime under applicable state or federal law; provided, however, notwithstanding the generality of the foregoing, nothing herein shall be deemed to release the Participant Parties from (x) any rights or claims of the Company arising out of or attributable to (A) the Participant's actions or omissions involving or arising from fraud, deceit, theft or intentional or grossly negligent violations of law, rule or statute while employed by the Company and (B) the Participant's actions or omissions taken or not taken in bad faith with respect to the Company; and (y) the Participant or any other Participant Party's obligations under this Release or the Plan.

4. No Assignment. The parties represent and warrant that they have not assigned any of the Claims being released under this Release.

5. Proceedings.

(a) General Agreement Relating to Proceedings. The parties represent and warrant that they have not filed, and they agree not to initiate or cause to be initiated on their behalf, any complaint, charge, or claim against the other party before any local, state or federal agency, court or other body relating to the Participant's employment or the termination thereof, other than with respect to any claim that is not released hereunder including with respect to the obligations of the Company to the Participant and the Participant to the Company under the Plan (each, individually, a "Proceeding"), and each party agrees not to participate voluntarily in any Proceeding. The parties waive any right they may have to benefit in any manner from any relief (whether monetary or otherwise) arising out of any Proceeding.

(b) Proceedings Under ADEA. Section 5(a) shall not preclude the Participant from filing any complaint, charge or claim challenging the validity of the Participant's waiver of Claims arising under ADEA (which is set forth in Section 2(b) of this Release). However, both the Participant and the Company confirm their belief that the Participant's waiver of claims under ADEA is valid and enforceable, and that their intention is that all claims under ADEA will be waived.

(c) Certain Administrative Proceedings. In addition, Section 5(a) shall not preclude the Participant from filing a charge with or participating in any administrative investigation or proceeding by the Equal Employment Opportunity Commission or another Fair Employment Practices agency. The Participant is, however, waiving his or her right to recover money in connection with any such charge or

investigation. The Participant is also waiving his or her right to recover money in connection with any charge filed by any other entity or individual, or by any federal, state or local agency.

6. Remedies.

(a) Each of the parties understands that by entering into this Release such party will be limiting the availability of certain remedies that such party may have against the other party and such party's ability to pursue certain claims against the other party.

(b) Each of the parties acknowledges and agrees that the remedies at law available to such party for breach of any of the obligations under this Release would be inadequate and that damages flowing from such a breach may not readily be susceptible to being measured in monetary terms. Accordingly, each of the parties acknowledges, consents and agrees that, in addition to any other rights or remedies that such party may have at law or in equity, such party shall be entitled to seek a temporary restraining order or a preliminary or permanent injunction, or both, without bond or security, restraining the other party from breaching its obligations under this Release. Such injunctive relief in any court shall be available to the relevant party, in lieu of, or prior to or pending determination in, any arbitration proceeding.

7. Cooperation. From and after the Termination Date, the Participant shall cooperate in all reasonable respects with the Company, its affiliates and subsidiaries and their respective directors, officers, attorneys and experts in connection with the conduct of any action, proceeding, investigation or litigation involving the Company or any of its affiliates or subsidiaries, including any such action, proceeding, investigation or litigation in which the Participant is called to testify.

8. Unfavorable Comments.

(a) Public Comments by the Participant. The Participant agrees to refrain from making, directly or indirectly, now or at any time in the future, whether in writing, orally or electronically: (i) any derogatory comment concerning the Company, its affiliates or subsidiaries or any of their current or former directors, officers, employees or shareholders, or (ii) any other comment that could reasonably be expected to be detrimental to the business or financial prospects or reputation of the Company or any of its affiliates or subsidiaries.

(b) Public Comments by the Company. The Company agrees to instruct its directors and employees to refrain from making, directly or indirectly, now or at any time in the future, whether in writing, orally or electronically: (i) any derogatory comment concerning the Participant, or (ii) any other comment that could reasonably be expected to be detrimental to the Participant's business or financial prospects or reputation.

9. Severability Clause. In the event any provision or part of this Release is found to be invalid or unenforceable, only that particular provision or part so found, and not the entire Release, will be inoperative.

10. Non-admission. Nothing contained in this Release will be deemed or construed as an admission of wrongdoing or liability on the part of the Company or the Participant.

11. Governing Law. All matters affecting this Release, including the validity thereof, are to be governed by, and interpreted and construed in accordance with, the laws of the State of Michigan applicable to contracts executed in and to be performed in that State.

THE PARTICIPANT ACKNOWLEDGES THAT HE OR SHE HAS READ THIS RELEASE, THAT HE OR SHE HAS REVIEWED IT WITH AND OBTAINED THE ADVICE OF COUNSEL AND THAT HE OR SHE FULLY KNOWS, UNDERSTANDS AND APPRECIATES ITS CONTENTS, AND THAT HE OR SHE HEREBY EXECUTES THE SAME AND MAKES THIS RELEASE AND THE RELEASES PROVIDED FOR HEREIN VOLUNTARILY AND OF HIS OR HER OWN FREE WILL.

IN WITNESS WHEREOF, the parties have executed this Release as of the date first set forth above.

**AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.**

By:

PARTICIPANT

By:

**AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.**
**AMENDED & RESTATED 2018 OMNIBUS INCENTIVE PLAN**
**2022 INCENTIVE COMPENSATION PROGRAM FOR EXECUTIVE OFFICERS**

The 2022 Incentive Compensation Program for Executive Officers (the "Program") operates under and is otherwise subject to the terms of the American Axle & Manufacturing Holdings, Inc. Amended & Restated 2018 Omnibus Incentive Plan (the "Plan"). Capitalized terms not otherwise defined herein shall have the same meanings as in the Plan.

## ARTICLE 1
## DEFINITIONS

When used in the Program, the following words and phrases shall have the following meanings unless the context clearly indicates another meaning:

**1.1** **Administrator** means the Management Benefits Committee acting through the Corporate Human Resources Department, as set forth in Article 5.

**1.2** **Base Salary** means a Participant's monthly gross regular rate of pay from the Company or a Subsidiary as of October 1 of a Program Year or on the date of a Participant's death, Disability, Retirement, before any required reductions or withholdings or reductions under any salary reduction agreement between a Participant and the Company or a Subsidiary. Base Salary shall not include overtime, bonuses, compensation paid in kind, special allowances or reimbursements to cover expenses paid or incurred on behalf of the Company or a Subsidiary or in the course of employment with the Company or a Subsidiary, the Company's contribution to this Program or to any pension or profit sharing plan to which the Company or a Subsidiary makes contributions, or the Company or applicable Subsidiary's contribution to any employee welfare plan or arrangement.

**1.3** **Bonus Award** means a Cash-Based Award under the Plan determined in accordance with Article 3.

**1.4** **Bonus Award Multiplier** means the applicable annual target bonus percentage of the Eligible Employee's Base Salary.

**1.5** **CEO** means the Chief Executive Officer of the Company.

**1.6** **CFO** means the Chief Financial Officer of the Company.

**1.7** **Committee** means the Compensation Committee of the Board of Directors.

**1.7** **Covered Earnings** means a Participant's Base Salary multiplied by his or her Days of Participation during a Program Year.

**1.8** **Eligible Employee** means an Executive Officer.

**1.9** **Executive Officer** means "executive officer" of the Company as defined in Section 16 of the Securities Exchange Act of 1934 and the rules thereunder, as determined by the Board of Directors.

**1.10 Days of Participation** means each day on which an employee of the Company or a Subsidiary is an Eligible Employee. An Eligible Employee who, during the Program Year, dies, separates due to Retirement, or incurs a Disability will be credited with his or her Days of Participation through the date of death, Retirement, or Disability but not thereafter.

**1.11 Payment Date** means the date or dates on which Bonus Awards under the Program are paid to Participants as determined in accordance with Section 4.1 hereof.

**1.12 Program Year** means the 12-month period beginning on January 1 and ending on December 31 of each year.

**1.13 Weighted Percentage** means the percentage allocation (relative weighting) assigned to each of the applicable Performance Measures for each Program Year, as approved by the Committee in consultation with the CEO and CFO.

## ARTICLE 2
## PARTICIPATION

**2.1 Participation**. An individual who becomes an Eligible Employee before October 1 of a Program Year shall be a Participant for such Program Year. An individual who becomes an Eligible Employee on or after October 1 of a Program Year shall not be a Participant for such Program Year, but shall become a Participant for the next succeeding Program Year on January 1 of such next succeeding Program Year in the event and to the extent such individual remains an Eligible Employee continuously into such succeeding Program Year.

**2.2 Eligibility**. Each Participant:

a. who remains an Eligible Employee through the last day of a Program Year and continuously throughout the next succeeding Program Year up to and including the Payment Date; or

b. whose participation in the Program terminated during the Program Year due to the Participant's:

i. death; or
ii. Disability; or
iii. Retirement;

shall be entitled to receive a Bonus Award, except as otherwise provided herein.

## ARTICLE 3
## CALCULATION OF BONUS AWARDS

**3.1 Bonus Award Formula**. The Bonus Award of an Executive Officer for a particular Program Year shall be determined pursuant to this Article 3 and shall be equal to the sum of the amounts calculated for each applicable Performance Measure pursuant to the following formula:

**1.** the bonus award percentage which corresponds to the applicable Performance Measure for the Program Year;

**2.** multiplied by the Weighted Percentage assigned to each such Performance Measure;

**3.** multiplied by the Covered Earnings of the Executive Officer for the Program Year;

**4.** multiplied by the Bonus Award Multiplier of the Executive Officer for the Program Year.

**3.2 Weighted Percentages**. Each Program Year the Committee, in consultation with the CEO and CFO, shall assign a Weighted Percentage to each of the Performance Measures, which may be between 0% and 100%. For purposes of determining Bonus Awards for Executive Officers, the Weighted Percentages for all of the Performance Measures must total 100%. A list setting forth all Weighted Percentages for each of the Performance Measures shall be established for each Program Year based on the recommendation of the CEO and CFO and approval of the Committee. For the avoidance of doubt, such listing need not include any Performance Measures for which the Weighted Percentage is 0%.

**3.3 Individual Performance Adjustments**. Anything in this Program to the contrary notwithstanding, the amount of a Participant's Bonus Award for a given Program Year shall be subject to review and adjustment by the CEO, who shall have the discretion to increase, decrease, or eliminate entirely (such adjustments, "Individual Performance Adjustments") any Bonus Award determined pursuant to this Article 3; provided, however, that the amount of an Executive Officer's Bonus Award must be approved by the Committee and cannot exceed the annual individual limit under the Plan applicable to Cash-Based Awards.

**3.4 Requirement of Profitability**. Except as provided in the Plan and subject to any adjustments made by the Committee in accordance with the Plan, no Bonus Award shall be payable pursuant to this Program to any Participant for any Program Year in which the Company's audited consolidated financial statements contained in its Annual Report on Form 10-K filed with the Securities and Exchange Commission for such Program Year do not report positive net income for the Program Year in question after reflecting all costs and expenses associated with the Plan for such Program Year.

## ARTICLE 4
## PAYMENT OF BONUS AWARD

**4.1 Time and Manner of Payment**. Payment of a Participant's Bonus Award for a Program Year shall be made not later than March 15 of the subsequent year; provided, however, that if the employment of a Participant by the Company terminates during a Program Year, or prior to March 15 of the subsequent year, for a reason other than his or her death, Disability, or Retirement, the Participant shall forfeit all rights to a Bonus Award in such Program Year and no Bonus Award shall be paid to such Participant for such Program Year. Notwithstanding any provision of the Program to the contrary, the Company shall withhold from any Bonus Award all federal, state and local taxes as shall be required pursuant to any law or governmental regulation or ruling, any amounts owed by the Participant to the Company to the extent permitted by law, and any amounts otherwise required to be withheld or deducted under applicable law or by agreement of the Company and the Participant.

## ARTICLE 5
## ADMINISTRATION, AMENDMENT AND TERMINATION

**5.1** **Authority of Administrator**. The Management Benefits Committee shall monitor the performance of the Program to ensure that it is administered by the Human Resources Department in accordance with its terms and applicable laws and regulations. Except as otherwise expressly stated, the Compensation Committee, or such other committee, including the Management Benefits Committee, to which it delegates such authority, shall have the full power, discretion and authority to construe, interpret and administer the Program, including authority to correct any defect or reconcile any inconsistency or ambiguity. All decisions, acts or interpretations of the Committee shall be final, conclusive and binding upon all persons. No member of the Committee, the Management Benefits Committee, or any other committee to which Plan administrative authority has been delegated, shall be personally liable by reason of any action taken by him or her in good faith or on his or her behalf as Administrator, nor for any mistake in judgment made in good faith, and the Company shall indemnify and hold harmless each member of the Committee, the Management Benefits Committee, the CEO, the CFO, and each other executive officer, employee or director of the Company or a Subsidiary to whom any duty or power relating to the Program, or its administration or interpretation, may be delegated, against any cost or expense (including legal fees) or liability (including any sum paid in settlement of a claim with the approval of the Board of Directors) arising out of any act or omission to act in connection with the Program unless arising out of such person's own fraud or bad faith.

**5.2** **Amendment and Termination**. The Committee may at its discretion amend this Program in any respect at any time and for any reason and may terminate the Program, in whole or in part, at any time and neither notice of amendment nor of termination is necessary for any amendment or termination to be effective. Any amendment or termination of the Program may be made effective retroactively to the first day of the Program Year or, in the case of an amendment or termination of the Program adopted on or before March 15, the first day of the preceding Program Year. No Participant or designated beneficiary shall be deemed to have a vested or contractual right to a Bonus Award until such Bonus Award is actually paid to the Participant or designated beneficiary by the Company. The payment of Bonus Awards pursuant to this program is completely discretionary on the part of the Company. The existence of this Program shall create no rights on behalf of Participants or beneficiaries or obligations on behalf of the Company.

## ARTICLE 6
## MISCELLANEOUS

**6.1** **Compliance with Financing Agreements**. This Program may be subject to the terms and conditions of any agreements entered into between the Company and any third party lender to whom the Company is now indebted, or may at any time during the term of this Program become indebted, and the Bonus Awards for any Program Year may be reduced by such amounts as may be necessary to ensure that the Company is not in default under any such agreements.

**6.2 No Right, Title or Interest in or to the Company's Assets**. Neither Participants nor Beneficiaries shall have any right, title or interest whatsoever in or to any investments which the Company may make to aid it in meeting its obligations under this Program. Nothing contained in the Program, and no action taken pursuant to its provisions, shall create or be construed to create a trust of any kind or a fiduciary relationship between Holdings or the Company and any Participant, designated beneficiary or any other person. All payments to be made under this Program shall be paid from the general assets of the Company.

**6.3 No Alienation of Bonus Awards**. Except as otherwise may be required by law, no amount payable at any time under this Program shall be subject in any manner to alienation by anticipation, sale, transfer, assignment, bankruptcy, pledge, attachment, charge or encumbrance of any kind, nor in any manner be subject to the debts or liabilities of any person, and any attempt to so alienate or subject any such amount, whether currently or hereafter payable, shall be void.

**6.4 No Contract of Employment**. Neither the actions of the Company in establishing this Program, nor any provisions of this Program or any action taken by the Company, the Committee, the Administrator or the CEO pursuant to its provisions, shall be construed as giving to any Eligible Employee or any employee the right to be employed by the Company or a Subsidiary or affect the right of the Company or a Subsidiary to dismiss any employee.

**EXHIBIT 21 - SUBSIDIARIES OF OUR COMPANY**
**AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.**

| Entity | Organized Under Laws of |
|---|---|
| **Parent Entity** | |
| American Axle & Manufacturing Holdings, Inc. | Delaware |
| | |
| **Subsidiary Entities (1)** | |
| AAM Auto Component (India) Private Limited | India |
| AAM Casting Corp. | Delaware |
| AAM Commercial & Trading (Shanghai) Co., Ltd. | China |
| AAM Distribution Company, Inc. | Delaware |
| AAM do Brasil Ltda. | Brazil |
| AAM Eisenach Driveline GmbH | Germany |
| AAM Germany GmbH | Germany |
| AAM India Manufacturing Corporation Private Limited | India |
| AAM International Holdings, Inc. | Delaware |
| AAM International S.ár.l. | Luxembourg |
| AAM Investment Management (Shanghai) Co., Ltd. | China |
| AAM Luxembourg S.ár.l. | Luxembourg |
| AAM Maquiladora Mexico S. de R.L. de C.V. | Mexico |
| AAM Mexico Holdings, LLC | Delaware |
| AAM Poland Sp. z o. o. | Poland |
| AAM Powder Metal Components, Inc. | Ohio |
| AAM Travel Services, LLC | Michigan |
| AccuGear, Inc. | Delaware |
| Albion Automotive (Holdings) Limited | Scotland |
| Albion Automotive Limited | Scotland |
| American Axle & Manufacturing (Thailand) Co., Ltd. | Thailand |
| American Axle & Manufacturing de Mexico Holdings S. de R.L. de C.V. | Mexico |
| American Axle & Manufacturing de Mexico S. de R.L. de C.V. | Mexico |
| American Axle & Manufacturing Korea, Inc. | Korea |
| American Axle & Manufacturing, Inc. | Delaware |
| ASP Grede Intermediate Holdings LLC | Delaware |
| ASP HHI Holdings, Inc. | Delaware |
| Auburn Hills Manufacturing, Inc. | Delaware |
| Bearing Holdings, LLC | Delaware |
| Changshu AAM Automotive Driveline High Technology Manufacturing Co., Ltd. | China |
| Colfor Manufacturing, Inc. | Delaware |
| e-AAM Driveline Systems AB | Sweden |
| HHI FormTech, LLC | Delaware |
| Impact Forge Group, LLC | Delaware |
| Jernberg Industries, LLC | Delaware |
| Kyklos Bearing International, LLC | Delaware |
| Kyklos Holdings, LLC | Delaware |
| MD Investors Corporation | Delaware |
| Metaldyne (Suzhou) Automotive Components Co., Ltd | China |
| Metaldyne Componentes Automotivos do Brasil Ltda. | Brazil |
| Metaldyne Europe S.ár.l. | Luxembourg |
| Metaldyne GmbH | Germany |
| Metaldyne Grundstrücks GbR | Germany |
| Metaldyne Hong Kong Limited | Hong Kong |
| Metaldyne International (UK) Ltd | United Kingdom |
| Metaldyne International France | France |
| Metaldyne International Spain, S.L. | Spain |
| Metaldyne Korea Limited | Korea |
| Metaldyne M&A Bluffton, LLC | Delaware |
| Metaldyne Mauritius Limited | Mauritius |
| Metaldyne Netherlands Sintered Holdings B.V. | Netherlands |
| Metaldyne Nürnberg GmbH | Germany |

**EXHIBIT 21 - SUBSIDIARIES OF OUR COMPANY**
**AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.**

| | |
|---|---|
| Metaldyne Oslavany, spol. s.r.o. | Czech Republic |
| Metaldyne Performance Group Inc. | Delaware |
| Metaldyne Powertrain Components, Inc. | Delaware |
| Metaldyne Sintered Components España, S.L. | Spain |
| Metaldyne Sintered Components Mexico, S. de R.L. de C.V. | Mexico |
| Metaldyne Sintered Ridgway, LLC | Delaware |
| Metaldyne SinterForged Products, LLC | Delaware |
| MetaldyneLux S.ár.l. | Luxembourg |
| MPG México, S. de R.L. de C.V. | Mexico |
| MSP Industries Corporation | Michigan |
| Neumayer Tekfor Automotive Brasil Ltda. | Brazil |
| Neumayer Tekfor Engineering GmbH | Germany |
| Neumayer Tekfor GmbH | Germany |
| Neumayer Tekfor Japan Co. Ltd. | Japan |
| Neumayer Tekfor Rotenburg GmbH | Germany |
| Neumayer Tekfor Schmölin GmbH | Germany |
| Novocast, S. de R. L. de C.V. | Mexico |
| Oxford Forge, Inc. | Delaware |
| Punchcraft Machining and Tooling, LLC | Delaware |
| Tekfor Brasov S.R.L. | Romania |
| Tekfor Holding GmbH | Germany |
| Tekfor Services GmbH | Germany |
| Tekfor Servicios Mexico, S.A. de C.V. | Mexico |
| Tekfor, Inc. | Delaware |
| Tekor Mexico, S.A. de C.V. | Mexico |

(1) All subsidiaries set forth herein are reported in our financial statements through consolidations; there are no subsidiaries omitted from this list.

**EXHIBIT 22 - SUBSIDIARY GUARANTORS AND ISSUERS OF GUARANTEED SECURITIES**
**AMERICAN AXLE & MANUFACTURING HOLDINGS, INC.**

Our 6.875% Notes, 6.50% Notes, 6.25% Notes and 5.00% Notes are senior unsecured obligations of American Axle & Manufacturing, Inc., all of which are fully and unconditionally guaranteed, on a joint and several basis, by American Axle & Manufacturing Holdings, Inc. and substantially all domestic subsidiaries of American Axle & Manufacturing, Inc. and Metaldyne Performance Group, Inc. The table below defines these entities.

| Entity | Organized Under Laws of |
|---|---|
| **Parent Entity** | |
| American Axle & Manufacturing Holdings, Inc. | Delaware |
| | |
| **Issuing Entity** | |
| American Axle & Manufacturing, Inc. | Delaware |
| | |
| **Guarantor Entities** | |
| AAM International Holdings, Inc. | Delaware |
| Auburn Hills Manufacturing, Inc. | Delaware |
| Oxford Forge, Inc. | Delaware |
| MSP Industries Corporation | Michigan |
| Colfor Manufacturing, Inc. | Delaware |
| AccuGear, Inc. | Delaware |
| Metaldyne Performance Group, Inc. | Delaware |
| Metaldyne M&A Bluffton, LLC | Delaware |
| Metaldyne Powertrain Components, Inc. | Delaware |
| Metaldyne Sintered Ridgway, LLC | Delaware |
| Metaldyne SinterForged Products, LLC | Delaware |
| Punchcraft Machining and Tooling, LLC | Delaware |
| HHI FormTech, LLC | Delaware |
| Jernberg Industries, LLC | Delaware |
| Impact Forge Group, LLC | Delaware |
| ASP HHI Holdings, Inc. | Delaware |
| MD Investors Corporation | Delaware |
| AAM Powder Metal Components, Inc. | Ohio |
| ASP Grede Intermediate Holdings LLC | Delaware |
| AAM Casting Corp. | Delaware |
| Tekfor, Inc. | Delaware |

**EXHIBIT 23 - CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We consent to the incorporation by reference in Registration Statements No. 333-257572, No. 333-220300, No. 333-225468 and No. 333-181163 each on Forms S-8, and Registration Statements No. 333-268291, No. 333-236448 and No. 333-217033 on Form S-3ASR of our report dated February 17, 2023, relating to the consolidated financial statements and financial statement schedule of American Axle & Manufacturing Holdings, Inc. and the effectiveness of American Axle & Manufacturing Holdings, Inc.'s internal control over financial reporting appearing in this Annual Report on Form 10-K for the year ended December 31, 2022.

/s/ Deloitte & Touche LLP

Detroit, Michigan
February 17, 2023

**EXHIBIT 31.1 – CERTIFICATION PURSUANT TO RULE 13a-14(a) OF THE SECURITIES EXCHANGE ACT**

I, David C. Dauch, certify that:

1. I have reviewed this Annual Report on Form 10-K of American Axle & Manufacturing Holdings, Inc.;
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 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 17, 2023

/s/ David C. Dauch
David C. Dauch
Chairman of the Board & Chief Executive Officer
(Principal Executive Officer)

**EXHIBIT 31.2 – CERTIFICATION PURSUANT TO RULE 13a-14(a) OF THE SECURITIES EXCHANGE ACT**

I, Christopher J. May, certify that:

1. I have reviewed this Annual Report on Form 10-K of American Axle & Manufacturing Holdings, Inc.;
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 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 17, 2023

/s/ Christopher J. May
Christopher J. May
Executive Vice President & Chief Financial Officer
(Principal Financial Officer)

**EXHIBIT 32 - CERTIFICATIONS PURSUANT TO**
**18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO**
**SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report of American Axle & Manufacturing Holdings, Inc. (Issuer) on Form 10-K for the period ending December 31, 2022 as filed with the Securities and Exchange Commission on the date hereof (Report), I, David C. Dauch, Chairman of the Board & Chief Executive Officer of the Issuer, and I, Christopher J. May, Executive Vice President & Chief Financial Officer of the Issuer, certify, 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 Issuer.

/s/ David C. Dauch
David C. Dauch
Chairman of the Board &
Chief Executive Officer
February 17, 2023

/s/ Christopher J. May
Christopher J. May
Executive Vice President &
Chief Financial Officer
February 17, 2023