



**HOWMET  
AEROSPACE**

ENVIRONMENTAL, SOCIAL  
AND GOVERNANCE REPORT  
**2020**

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On April 1, 2020, Arconic Inc. completed the separation of its business into two independent, publicly traded companies: Howmet Aerospace Inc. (the new name for Arconic Inc.) ("Howmet Aerospace") and Arconic Corporation ("Arconic Corp"). Howmet Aerospace includes four reportable segments: Engine Products, Fastening Systems, Engineered Structures and Forged Wheels. Arconic Corp includes Rolled Products, Building and Construction Systems, and Extrusions. Where practical, and unless otherwise noted, this 2020 report focuses on the businesses remaining with Howmet Aerospace as of April 1, 2020, and covers activities from January 1, 2020 to December 31, 2020.

**Forward-Looking Statements:** This report contains, in addition to historical information, statements concerning Howmet Aerospace's expectations, goals, targets, strategies or future performance. These "forward-looking statements" include such words as "anticipates," "believes," "estimates," "expects," "should," "will," or other words of similar meaning and are subject to a number of known and unknown risks and uncertainties. Some of the factors that may cause Howmet Aerospace's actual results to differ materially from those expressed or implied in the forward-looking statements include uncertainty of the duration, extent and impact of the COVID-19 pandemic on Howmet Aerospace's operations and financial condition; deterioration in global economic or financial market conditions generally or in the markets served by Howmet Aerospace, including as a result of COVID-19 and its effects; the impact of potential cyber attacks and information technology or data security breaches; factors affecting Howmet Aerospace's operations, such as equipment outages, manufacturing difficulties, supply chain disruptions, natural disasters or other unexpected events; changes in the regulatory environment; the outcome of contingencies, including legal proceedings, government or regulatory investigations, and environmental remediation; the inability to achieve the level of revenue growth, cash generation, cost reductions, improvement in profitability, or strengthening of competitiveness and operations anticipated or targeted; and the other risk factors summarized in Howmet Aerospace's [Form 10-K](#) for the year ended December 31, 2020, and other SEC reports.

# CEO STATEMENT



For Howmet Aerospace, environmental, social and governance (ESG) is about generating meaningful change for a more sustainable future and improving diversity and inclusion inside our company and in the communities where we operate.

With respect to sustainability, nowhere is this more evident than in the products we provide to our customers. Our proprietary technologies help reduce fuel consumption and cut carbon emissions, contributing to the aerospace industry's goal of a smaller carbon footprint. Our products and technologies enable similar advances in the commercial transportation and defense industries.

We are also continuing to optimize our operations to reduce waste, which includes improving our energy efficiency and reducing our greenhouse gas (GHG) footprint. As a newly independent company, we spent 2020 refocusing our ESG approach and programs to align them with the opportunities and challenges specific to our business.

We have expanded this report to share more of these details, which are important to our customers, shareholders, employees and the communities where we operate. To make this report more useful to our stakeholders, we aligned it with guidance from the Task Force on Climate-Related Financial Disclosures (TCFD) and standards from the Sustainability Accounting Standards Board (SASB).

Highlights from our 2020 ESG performance include:

- ▶ A 19.2 percent decrease in GHG emissions and 17 percent decline in energy consumption compared to 2019, driven by COVID-related reductions;
- ▶ Zero employee and contractor fatalities;
- ▶ A 21 percent reduction in our total recordable incidents and a 4 percent decline in our days away, restricted and transfer rate compared to 2019; and
- ▶ 88 percent of our key suppliers having sustainability programs considered leading or active.

While environmental impacts remained important during the year, social concerns reemerged as an important issue for Howmet Aerospace. At the forefront, the global COVID-19 pandemic presented entirely new sets of economic and social challenges. The pandemic reaffirmed one of our main commitments – the health and safety of our employees, their families and their communities. We took aggressive action to safeguard our people and helped minimize the spread of the virus.

Despite the uncertain operational conditions presented by COVID, we maintained attention on safety and quality. We saw no material incidents related to product safety or air worthiness directives. In addition, 84 percent of our locations worldwide were without a lost workday incident. This is a tremendous testament to the dedication and focus of our talented workforce.

The year also underscored the importance and power of diversity, equity and inclusion (DEI) at our company. During 2020, we partnered with key external DEI organizations, including the Human Rights Campaign, the National Hispanic Corporate Council and Diversity Best Practices, to review and continuously improve our initiatives. We also reenergized our six employee resource groups to strengthen our company culture.

Howmet Aerospace Foundation continued its giving to support quality STEM education opportunities and create access for underrepresented individuals to STEM fields. The Foundation approved more than US\$5.2 million in STEM-focused grants and disbursed more than US\$2.3 million. In addition, the Foundation provided grants to lessen the impact of COVID-19 in the communities where we operate, including emergency food help, housing assistance, healthcare aid and remote learning support.

While 2020 was a year of transition, we continued building on our long ESG heritage to ensure Howmet Aerospace remains a responsible corporate citizen.

A stylized, handwritten signature in white ink, appearing to read 'J. C. Plant'.

John C. Plant  
*Chairman and Co-Chief Executive Officer*

# ESG AT HOWMET AEROSPACE

## ESG APPROACH

*The many challenges in 2020, including COVID-19 and social unrest, as well as a renewed focus on ESG performance have influenced the shaping of our ESG approach.*

We believe that through our fundamentals and values, we hold ourselves to the highest levels of integrity and compliance. This strengthens our ESG approach and navigates us through these and other challenges.

Our direction remains unchanged. Wherever we operate, it's our goal to have a positive impact on our stakeholders and surrounding communities. We believe that truly sustainable organizations shape the future. By fulfilling the needs of society now, we can expand opportunities for generations to come.

Our ESG approach is based on three levers that help advance our efforts:

- ▶ **Customer:** Through our sustainable product development and innovations, enable our customers to achieve their sustainability goals. It is here where we make a substantial impact with our products, which reduce fuel consumption and improve efficiencies.
- ▶ **Operational:** Reduce our environmental footprint, act on our social responsibility and keep our

people safe, empowered and engaged.

- ▶ **Supply chain:** Drive sustainability into our suppliers' processes and practices and leverage their expertise to achieve our sustainability goals.

During 2020, we refocused our ESG approach and programs and aligned them with the opportunities and risks specific to our new company profile. We built our ESG program on the strong foundations that were already in place. Where new metrics were prudent, we expanded our data collection and verification systems to provide transparency and insight for our stakeholders.

For our global operations and business segments, we progressed on our careful analysis of climate scenarios and the testing of our resilience to climate change. Wherever practical, we followed, and will continue to follow, the recommendations from the [Task Force on Climate-related Financial Disclosures](#).

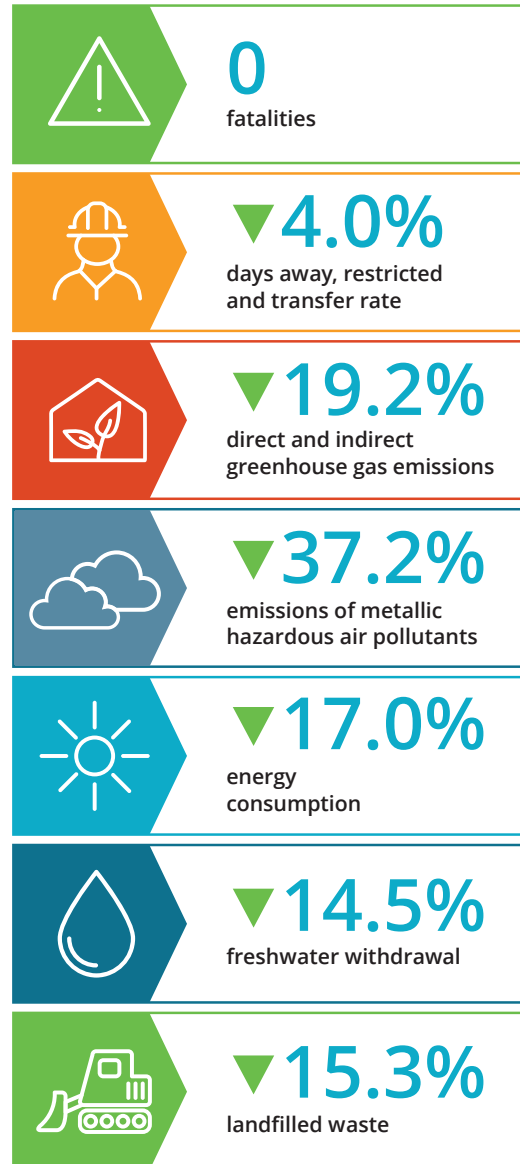
During the reporting year, the pandemic and subsequent impact on production volumes complicated our target-setting process due to the challenges in predicting energy consumption

and efficiency gains. We'll continue our effort to improve emission intensities and our target-setting process in 2021.

We continue to report against the Global Reporting Initiative Standards and the Sustainability Accounting Standard Board Aerospace and Defense Sustainability Accounting Standard. This year's report includes additional insight for material topics that include cybersecurity, product safety and hazardous waste.

To advance the management of our environment, health and safety (EHS) functions, we have aligned our EHS management system to ISO 14001 environmental management standard and the new ISO 45001 occupational health and safety standard. Each of our operating locations meets these internationally recognized standards, which cover nearly all of our employees. (View our [third-party certifications](#).)

## 2020 ANNUAL PERFORMANCE



# REPORTING AND MATERIALITY

*The 2020 Howmet Aerospace ESG Report was developed in accordance with the core option of the GRI Standards and the SASB Aerospace and Defense Sustainability Accounting Standard. Our reporting is also aligned with the TCFD framework.*

We periodically review our material topics and match our report content with internal and external expectations to ensure a balanced approach between relevancy and transparency. Materiality input is obtained from various sources, including:

## External:

- ▶ Stakeholders and providers of capital;
- ▶ Customers;
- ▶ Industry associations;
- ▶ ESG standards and frameworks, such as the SASB standard;
- ▶ Sustainability surveys from ratings organizations; and
- ▶ Media coverage of Howmet Aerospace.

## Internal:

- ▶ Our leadership;
- ▶ Our enterprise risk management process; and
- ▶ Our employees and their representatives.

We currently do not seek third-party assurance of our ESG report. The accuracy and completeness of the information is verified by our internal experts and processes, which include our EHS and Ethics and Compliance audit and assessment processes.

## MATERIAL TOPICS

Topic	Boundaries
Energy	Global operations
Water	Global operations
Climate Change	Global operations
Air Emissions	Global operations
Waste	Global operations
Environmental Compliance	Global operations
Health and Safety	Global operations
Diversity and Equal Opportunity	Global operations
Data Security	Global operations
Business Ethics	Global operations
Product Safety	Global operations



# COVID-19 PANDEMIC

*COVID-19 represented the biggest health challenge in the history of our company, impacting our employees, suppliers and customers.*

This adverse situation became a unifying moment, as our employees worked tirelessly to establish internal and external programs and protocols to protect our people and processes, which were deemed essential for the aerospace, defense and transportation industries.

In January 2020, we established a pandemic response team to rapidly develop guidance for our locations. We based this guidance upon programs that we had created for earlier pandemic threats, such as SARS.

The first impact was to our locations in China, which saw travel restrictions, lockdowns and stopped production. We were able to support those plants with masks during a time when global logistics were impaired.

Our first recorded employee case of COVID-19 was in mid-March. This marked the beginning of the first wave of cases that impacted our facilities in the Northeastern United States, and it was soon followed by a rapid increase in transmissions elsewhere.

Through our pandemic deployment system, we readied all of our other plants around the world with a comprehensive toolbox based on risk. We structured our location pandemic programs around entry screening, self assessment of symptoms, hygiene, masks,

social distancing and robust implementation of tracing and quarantine protocols.

We provided resources and equipment to employees who could meet their work commitments remotely to enable them to work from home. At the height of the pandemic, we had transitioned approximately 1,700 employees to work remotely. We also put in place special pandemic-related policies for leave and alternative schedules to encourage employees to stay at home when sick.

Recognizing the pandemic's various impacts on employee well-being, we launched a campaign on mental resilience that included access to professional mental health and resilience support. Our employee assistance partners communicated and provided the support to our employees.

Since exposures predominantly originated in the communities where we operate, we expanded our health communications to include off-the-job situations to prevent the virus from reaching the shop floor.

Through the end of 2020, 1,169 employees had laboratory-confirmed cases of COVID-19, and 183 employees were presumed to have contracted the virus. Most of these employees had minor symptoms, with few having to

be hospitalized. We are deeply saddened to report that 14 of our employees passed away due to COVID-19.

Our systems, programs and procedures to manage the risk associated with the pandemic have greatly matured, and we are prepared to follow the dynamics and risk

profile of the virus and mitigate the impact at our operations. Our approach will be reflected in ongoing enhancements to our programs to keep our employees and visitors safe and safeguard business continuity with the best available tools and measures.

## 2020 COVID-19 OUTCOMES

	Confirmed Cases	Presumed Cases	Deaths
Australia	0	0	0
Brazil	1	0	0
Canada	7	2	0
China	0	0	0
Czech Republic	0	0	0
France	46	49	0
Germany	27	0	0
Hungary	19	1	0
India	0	0	0
Japan	0	1	0
Mexico	58	9	5
Morocco	0	0	0
Netherlands	1	0	0
Singapore	0	0	0
United Kingdom	77	47	0
United States	933	74	9



## CASE STUDY

# GOING BEYOND THE NECESSARY

From expanding cafeteria space to upgrading air filtration systems, two of our locations in Connecticut have taken all necessary steps and more to protect their employees and families from COVID-19.

The Branford and Winsted locations, which are located 75 miles (120 kilometers) apart, began requiring masks, entry temperature screening and self-assessment of symptoms early in the pandemic. Ongoing communication with employees stresses the importance of staying home if displaying any symptoms, and in-depth contact tracing includes reviewing video of the shop floor to further identify employees who may have unknowingly been close to an individual diagnosed with the virus. Employee adherence to established protocols has been high.



For production areas where social distancing was not possible, the locations installed acrylic sheet to provide a physical barrier. Half of the tables were removed from the on-site cafeterias, and the Branford location created additional

cafeteria space. Both locations upgraded their ventilation systems to help filter the virus from the air and instituted enhanced cleaning protocols, especially for common touchpoints throughout the plants.

Each day, all supervisors and managers of shop floor departments conduct social-distancing audits for nearly 25 potential interaction points and activities. These include reception areas, time clock areas, assignment discussions and daily production meetings. Identified issues are addressed quickly.

Through March 2021, the locations had 16 confirmed cases among their combined 163 employees. None of the cases was found to have been contracted in the workplace.

# ENVIRONMENTAL

## PRODUCTS

*Working in close partnership with our customers, we solve complex engineering challenges to transform the way we fly and transport goods.*

The global markets in which we compete are increasingly driven by significant challenges – climate change, resource scarcity and more. By developing the next generation of innovations, we're enabling our customers to address challenges and capture opportunities.

Products made from our advanced materials and technologies are strong, efficient and durable. They help our customers achieve significant fuel economies, reduced emissions and maintenance efficiencies.

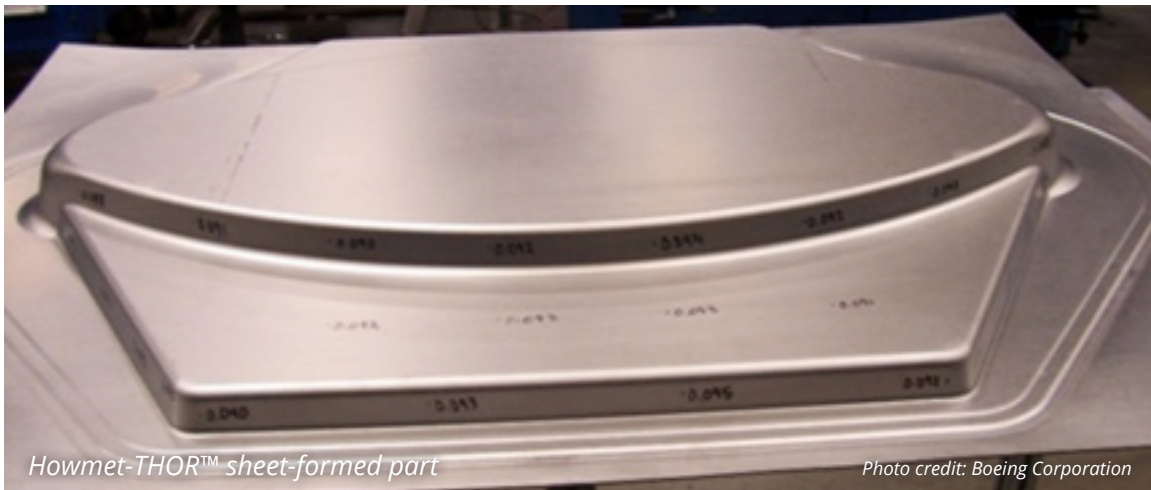
Through our innovations, we're advancing the sustainability of our customers and the markets that we serve.

### AEROSPACE

Airlines and aircraft manufacturers have a clear need – more efficient engines and lighter aircraft that deliver fuel efficiency and reduce emissions. Both will be essential for the industry to meet its goal of stabilizing emissions at 2020 levels, which was set in the historic Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

Through our product and process innovations, we're supporting the efforts of our aerospace customers.

Materials and cooling techniques that we developed enable aero engines to run hotter



Howmet-THOR™ sheet-formed part

Photo credit: Boeing Corporation

and under higher pressures, increasing fuel efficiency. For aerospace and defense engines, our single crystal airfoils with advanced cooling schemes operate in environments 200 °C (392 ° F) above the melting point of the metals. That's like trying to stop an ice cube from melting in a hot oven.

Our Howmet-THOR™ advanced titanium alloy is designed for higher temperature applications in next-generation aero engines and adjacent structures. The alloy is 50 percent lighter than incumbent nickel-based superalloys, which drives increased cost savings and fuel efficiency for our customers. It also operates at service temperatures higher than other conventional titanium alloys available on the market.

We recycle and purchase scrap material to use in our alloy systems. Approximately 60 percent of the alloy content we use is made from recycled materials, negating the need to mine virgin elementals.

Other Howmet Aerospace solutions that enable an engine to withstand higher temperatures and pressures include:

- ▶ A technique for growing single crystal turbine airfoils, which is a grain structure that aligns better to centrifugal force inside the engine, resists deformation, and increases blade temperature capability and product life;
- ▶ Complex ceramic shapes that form internal passages in the turbine airfoils to increase the efficiency of cooling air flowing across the metal surfaces;
- ▶ Advanced coatings that protect metal engine parts from extreme temperatures and the damaging effects of oxidation and corrosion; and
- ▶ The first-ever aluminum-lithium front fan blade forging developed

with Pratt & Whitney that improves fuel efficiency. We also manufacture aluminum and titanium variations.

Lighter aircraft use less fuel and emit fewer greenhouse gases (GHGs), and our solutions are helping the industry lighten up. For example, we developed lightweight titanium seat rails for the Boeing 787 airframe. The airframe is up to 20 percent lighter than its predecessor.



Our Flite-Tite® fasteners help enable large-scale, lightweight composite airframes by controlling the flow of energy in both the structure and fasteners, thereby protecting against lightning strike damage.

[LEARN MORE >](#)

## COMMERCIAL TRANSPORTATION

Global commercial transportation fleets continue to prioritize fuel efficiency to optimize productivity, reduce lifetime operating costs and comply with government emission regulations.

Current trends such as hybrid (electric) vehicles, which are designed to reduce carbon emissions, typically feature components like aerodynamic parts and larger batteries that ultimately increase overall weight. While there are sustainable advantages to the vehicles, the added weight negatively impacts payload per trip and, ultimately, freight efficiency.

Identifying ways to lightweight commercial transportation provides the ideal opportunity to leverage sustainably efficient components while maintaining optimum freight capacity.

The aluminum wheel is the single most effective product for saving weight on both a tractor and trailer (Source: NACFE Confidence Report: Lightweighting, January 2021). For an average truck, switching out conventional steel wheels and tires for Alcoa® wheels and wide-base tires saves more than 635 kilograms (1,400 pounds), depending on the application. A 454-kilogram (1,000-pound) weight reduction in a Class 8 vehicle results in a 0.5 percent to 0.6 percent fuel efficiency improvement. (Source: NACFE Confidence Report: Lightweighting, January 2021).

In addition to improved fuel economy, forged aluminum wheels increase freight efficiency, allow a fleet to comply with emission regulations and enhance payload per vehicle. Our wheels are also 100% recyclable.

Recent innovations that capture these lightweight and sustainable benefits include Ultra ONE® wheels with MagnaForce® alloy—the lightest aluminum truck wheels in the wheels portfolio. We continued to expand the Ultra ONE® product line globally in 2020. These wheels are an average 40 percent lighter than a traditional steel wheel.



*Alcoa® Ultra ONE® wheel*

Our proprietary Dura-Bright® surface treatment option is also available for simple soap and water cleaning, resulting in the use of less hazardous chemicals.

[LEARN MORE >](#)

## DEFENSE AND SPACE

Security and defense providers are experiencing broader requirements in response to continued and new threats. Defense aircraft must fly farther and carry more payloads. Land vehicles must carry multiple communication and weapon systems. These needs are challenging the industrial base to respond with material solutions that provide higher performance while using less fuel.



*F-35 Joint Strike Fighter*

We've been listening and innovating. Our solution systems are lighter, stronger, faster and sustainable across the air, land, sea and space defense domains.

Our advanced single crystal airfoils enable improved thrust, efficiency and loiter capability for defense engines. We're supporting the latest F135 engine technology with the world's most complex airfoils to achieve engine performance, reliability and durability.

Our monolithic forged aluminum bulkheads on the F-35 Joint Strike Fighter reduce total material volume, saving 135 to 180 kilograms (300 to 400 pounds) per jet. This allows the jets to use less fuel to stay on station longer, carry more critical payload and offer flexibility to counter any number of threats from a single platform.

The F-35 also features more than 48,000 of our Eddie-Bolt® 2 fasteners, which enable assembly of the aircraft's lightweight composite structure.

[LEARN MORE >](#)

## ENERGY

In the wind power market, our fastening systems for wind turbines provide superior joining and fatigue strength in even the most extreme environments. This reduces maintenance requirements and costs and minimizes the safety risks associated with our customer's employees accessing these structures.

In 2020, 4.8 million of our BobTail® lockbolts were used to assemble wind turbines in North America and Europe. This represents a 33 percent increase over 2019 usage due to proliferation at Vestas in Europe and GE in North America and adoption at Siemens Gamesa in North America.

Our fasteners are also used to assemble the structures in solar panel fields to improve structure reliability and reduce assembly costs. Our applications in the industry expanded in 2020 to include robust, maintenance-free electrical connections in direct current combiner boxes, which are critical components in getting solar power from the field to the grid.

During the year, we shipped 115 million BobTail lockbolts and 25 million BOM® blind

fasteners – a 100 percent volume increase compared to 2019 – to assemble 6.9 gigawatts of tracking solar fields. These fields will prevent the emission of 170,000 metric tons of carbon dioxide over their 25-year lifetime.



*BobTail lockbolt*

Our airfoils for industrial gas turbines (IGTs) support higher engine operating temperatures and pressures to maximize base load efficiency and reduce nitrogen oxide emissions by 40 percent. We are supporting a drive by original equipment manufacturers (OEMs) to increase operational efficiency, such as fast starts and fuel flexibility, and turbine availability and reliability through longer-life components.

We supply the world's largest IGT blades, which are more than one meter (3.3 feet) in length. This enables combined cycle power generation of nearly 900 megawatts and pushes turbine efficiency toward 64 percent.



# CLIMATE CHANGE

*As a global issue, climate change was at the forefront in 2020, even with the outbreak of COVID-19.*

Like many corporations, we see the challenges associated with climate change as an opportunity for positive change. As weather patterns evolve, we expect to see major regulatory changes and the world transition to a lower-carbon economy with a price on carbon emissions. We are embracing these moves with proactive mitigation and a product portfolio that minimizes carbon usage for our customers. (See the [Products](#) section.)

During 2020, we completed our first climate change assessment following the framework of the Task Force on Climate-related Financial Disclosures. This assessment provides details around our climate-related risks, opportunities, management and governance of this maturing topic. Below is a summary of the assessment's main conclusions, with full details available on [howmet.com](https://www.howmet.com).

## APPROACH

As an important assessment step, we performed the high-level climate change scenario analysis in 2020 for both physical risks and risks related to policies linked to the transition to a low-carbon economy.

For physical risks, we considered a worst-case scenario with no policy mitigation actions and a middle-of-the-road scenario to screen worst-case impacts. For risks related to the transition to a low-carbon economy, such as changing policies, we used the International Energy Agency Sustainable Development Scenario. This scenario is constructed to limit global temperature increase by 1.8° C.

## PHYSICAL RISK

The physical risk scenarios from the Intergovernmental Panel on Climate Change (IPCC) that we used in our scenario were:

- ▶ Representative concentration pathway (RCP) 8.5, which is a worst-case scenario with a worldwide average global temperature increase of 4° C in 2100; and
- ▶ RCP 4.5, which is a scenario with an average global temperature increase of 2° C.

The 2° C scenario analysis provided insights that can be summarized as incremental exposures to extreme weather events, with limited impact relative to the risks we assessed as part of the scope. The 4° C worst-case-scenario analysis identified the following physical impacts:

- ▶ Acute physical risks: Increased frequency and severity of extreme weather events, such as storms and floods; and
- ▶ Chronic physical risks: Potential for sea-level rise to affect facilities, but no significant exposure was indicated. Potential for temperature increases and water scarcity.

A general conclusion from the 4° C scenario was that no dramatic change in physical risks at our locations is expected between 2020 to 2050. Risk increases locally beyond 2050, such as a location's proximity to the sea and other bodies of water. We plan to review this scenario when more standardized tools to evaluate physical impacts become available.

The management of physical risk is embedded in our loss-prevention program. An important element of this program is related to third-party engineering audits of our sites, which include exposure to flooding, wind damage and other climate events. The audits identify preventive and mitigation actions for individual sites, such as flood protection and securement of roofs. Business segment leadership tracks the implementation of actions.

### CARBON PRICING AND TRANSITIONAL RISK

In the Sustainable Development Scenario, society acts rapidly to limit GHG emissions. Policies, such as a carbon price of US\$100 per ton of emissions per year by 2030, are implemented to discourage GHG emissions.

Our analysis considered various market growth scenarios and mitigation strategies to understand the financial impact associated with our direct carbon emissions. One of the key mitigation strategies is centered around energy-efficiency objectives in the near term that include operational improvements, equipment upgrades and process design changes. Energy efficiencies are a critical lever to reduce GHG emissions for our operating locations.

In the midterm, we plan to research opportunities that enable renewable fuel changes, particularly for product heating, which might become affordable and available at scale, as well as plant footprint optimization. Recently, we were limited by the pandemic and its subsequent impact on production volumes. This delayed our target-setting process due to the challenges in predicting energy consumption and efficiency gains.

### PERFORMANCE

Our GHG emissions are strongly correlated with our consumption of natural gas

and electricity, which comprise our most significant sources of energy. We have a solid history of deploying strategic energy-intensity improvements (see the [Energy](#) section), which has resulted in GHG intensity improvements between 2016 and 2019 and even reduced total GHG while our production volumes increased.

In 2020, our direct and indirect GHG emissions equaled 0.80 million metric tons – a 19.2 percent decrease from 2019. This decline included reduced natural gas consumption (15.9 percent), reduced electricity consumption (21.8 percent) and other reductions that included impacts from COVID-19.

During the year, our GHG intensity increased 7.1 percent due to lower revenue in combination with inefficiencies associated with production throughput declines that we were not able to fully offset with energy conservation initiatives.

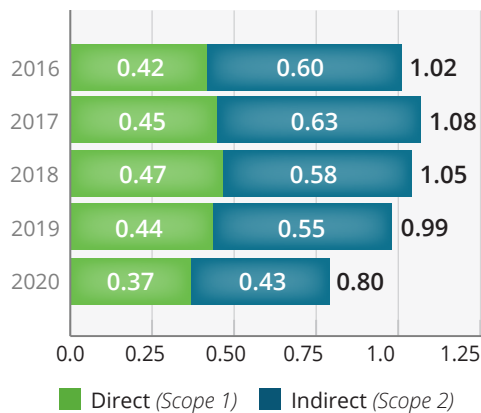
Since our most significant emissions are related to our purchases of primary metals, it's important that we use suppliers that are focused on energy efficiency, renewable energy and advanced technologies to minimize their GHG impact and, in turn, our Scope 3 emissions. (See the [Supply Chain](#) section.)

Our Scope 3 GHG emissions equaled 1.18 million metric tons in 2020. The 39.5 percent decline from prior year was due primarily to our purchasing fewer metals and alloys (38.6 percent), as well as reduced upstream and downstream transportation and distribution because of COVID-19. In 2020, we added additional specificity to our purchased goods calculations using emission factors established by the International Aerospace Environmental Group (IAEG) and began to include capital goods and waste generated as additional categories. The combined impact of the 2020 changes was a 0.9 percent decline.



## GREENHOUSE GAS EMISSIONS

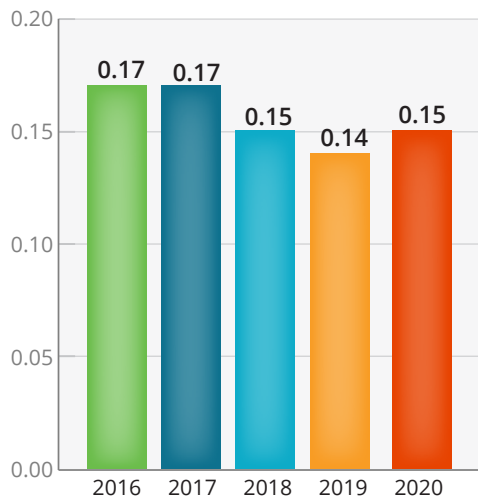
Million metric tons of carbon dioxide equivalents



Gases included in the calculations are carbon dioxide, methane and nitrous oxide. We had zero biogenic emissions in 2020. The source of all GHG emissions is energy consumption. Releases of refrigerants are included in the 2020 direct emissions. We used the World Resources Institute's GHG protocol methodology based on operational control; regional or country Scope 1 and 2 emission factors; and 4th IPCC Assessment GWP factors. Data changes from prior reporting were due to the inclusion of consumption from natural gas wells at one location.

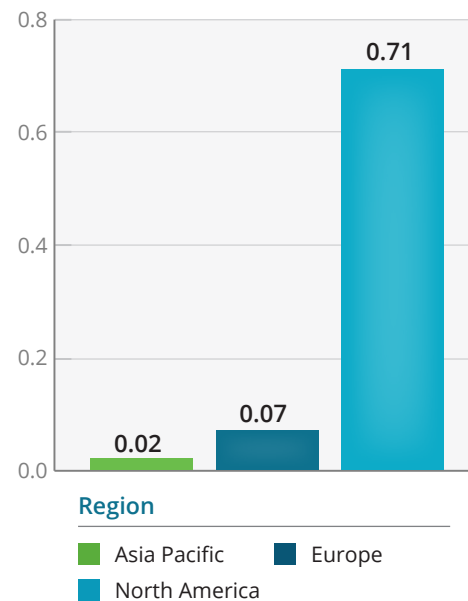
## GREENHOUSE GAS EMISSIONS INTENSITY

Million metric tons of carbon dioxide equivalents per billion dollars in third-party revenue



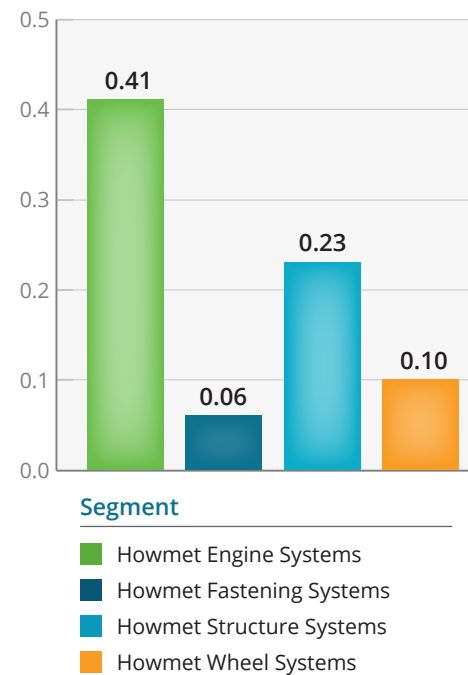
## 2020 SCOPE 1 AND 2 GREENHOUSE GAS EMISSIONS BY REGION

Million metric tons of carbon dioxide equivalents



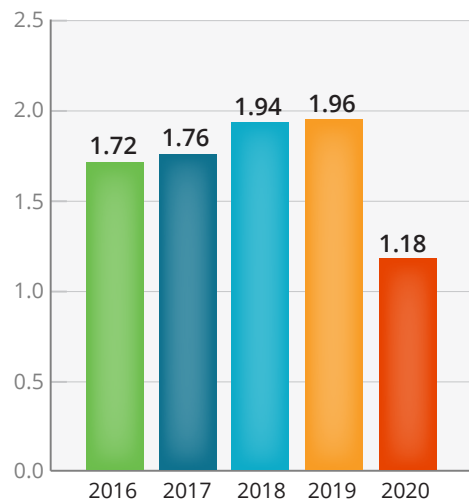
## 2020 SCOPE 1 AND 2 GREENHOUSE GAS EMISSIONS BY SEGMENT

Million metric tons of carbon dioxide equivalents



## SCOPE 3 GREENHOUSE GAS EMISSIONS

Million metric tons of carbon dioxide equivalents



*These values are based on WRI Scope 3 methodology for purchased goods, fuel and energy-related activities, upstream and downstream transportation, and end-of-life treatment of sold products. The difference in the percent reduction from 2019 to 2020 between the text and table is due to rounding.*

## AIR EMISSIONS

*Depending upon the manufacturing process, our operations produce different types of air emissions.*

In addition to greenhouse gases, other emissions that often are significant to specific operations or regions include nitrogen oxides and sulfur oxides, volatile organic compounds, particulate matter and specific toxic air pollutants, such as heavy metals.

Our approach to controlling and minimizing these emissions is driven by our internal air management standard and the regulatory requirements in the areas where we operate. In regions of the world where there are no regulations, we still impose controls to minimize emissions that could have an impact on human health and the environment.

Our efforts to minimize or eliminate air emissions include add-on pollution control equipment, changes in work practices, material substitutions or a combination of these strategies.

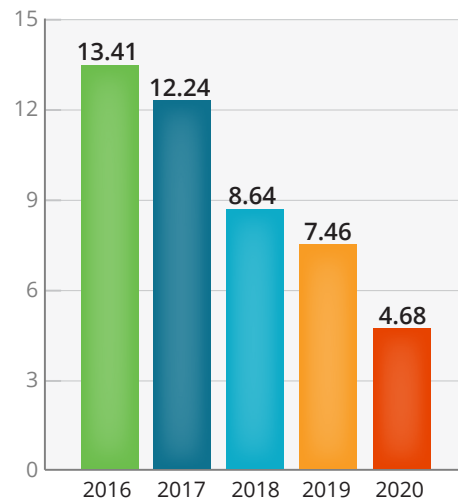
In 2020, we completed the centralization and standardization of air emissions data that our locations collect and report against to be in alignment with external disclosure standards, such as the GRI Standards. We will continue to collect standardized data in 2021 to create a basis for

developing reduction targets for air emissions.

The reductions in metallic hazardous air pollutants in 2018 and 2019 reflect the addition of pollution-control equipment and updated emission factors at sites, resulting in enhanced accuracy of the estimated emissions. The 2020 reductions are due to the impact of reduced production related to COVID-19 on our operating locations.

### METALLIC HAZARDOUS AIR POLLUTANTS

*Metric tons*



*Metallic hazardous air pollutants include chromium (total), cobalt, cadmium and nickel.*

### AIR EMISSIONS

*Metric tons*

	Nitrogen Oxides	Particulate Matter	Sulfur Oxides	Volatile Organic Compounds
2018	405.57	360.41	3.77	213.68
2019	391.28	375.30	3.57	199.34
2020	316.10	289.90	2.78	174.39

*Data for 2016 and 2017 is not included due to a reduced number of sites tracking and reporting these emissions in the centralized repository.*

# ENERGY

*The amount and type of energy that we consume have a direct impact on our GHG emissions.*

To reduce our energy consumption, we're improving our efficiency and evaluating strategies to use solar, wind and other renewable and low-carbon sources. We're also working to encourage compatible energy policies in regions where we're located.

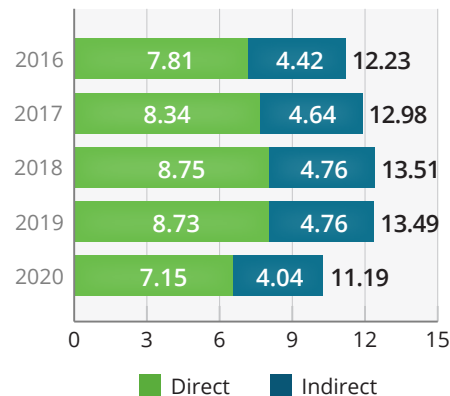
Our automated Energy Intelligence system allows us to manage energy usage in the moment through access to real-time energy data for each plant and, at most locations, individual meters within a plant. This transparency into our energy consumption provides significant opportunities to identify usage patterns and pinpoint inefficiencies at the plant and department levels. We also can aggregate the data for benchmarking, analytics and tracking of key performance indicators.

During 2020, our sites in the United Kingdom continued capturing energy savings identified through energy efficiency audits that were completed in 2019. The sites implemented projects with approximately 10.4 million kilowatt hours in combined savings by the end of 2020.

Our overall energy consumption was 11.2 million gigajoules in 2020. The 17.0 percent decrease over prior year was driven by declines in natural gas and electricity consumption that resulted from successful energy conservation initiatives and reduced production during the pandemic. Energy intensity both for revenue and purchased metal increased due to less efficient operations as a result of smaller volumes, unchanged energy baseloads and production start/stops associated with the pandemic.

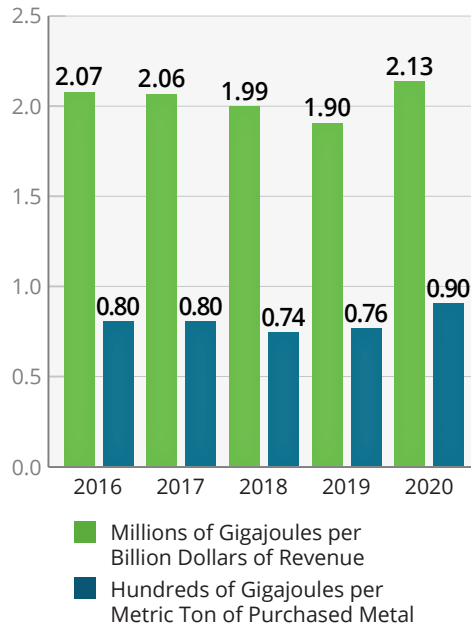
## GLOBAL ENERGY CONSUMPTION

Millions of gigajoules



*Of our total 2020 energy consumption, 100 percent was supplied from the grid and 0 percent was renewable. Data changes from prior reporting were due to the inclusion of consumption from natural gas wells at one location and a transition from estimated to actual data for six locations in 2019.*

## ENERGY INTENSITY



*Data represents all energy types consumed within Howmet Aerospace. Data changes from prior reporting were due to the inclusion of consumption from natural gas wells at one location and a transition from estimated to actual data for six locations in 2019.*

## WATER

*Water is significantly valuable – to Howmet Aerospace and the communities where we’re located around the world. We lessen our impact on local water supplies by consuming and discharging as little water as possible and reusing the water that we do withdraw.*

Our facilities use water primarily for cooling, plating and rinsing processes, as well as potable and sanitary uses. Our larger forging facilities are our largest users of water, followed by our casting plants. We also have facilities that are less water-intensive but located in areas that can be prone to water stress, primarily in the U.S. states of California, Nevada and Texas. Most of our operations are in industrialized areas, with 99 percent of our water from municipal supplies.

All of our locations report on the water they withdraw on an annual basis at a minimum, with withdrawal information obtained from utility invoices or reports, metering or estimation. Most of our production locations track their water use on a more frequent basis, such as monthly, to identify and respond to large, unexplained increases, including those caused by leaks.

We assess if our locations are in areas with water stress using publicly available tools and/or input from local governments or other stakeholders. A location identified as a larger water user and located in a water-stress area is further evaluated for opportunities to reduce its water withdrawal.

Each of our locations maintains an updated water-flow diagram that maps water intake, use and discharge. During the planning phase for equipment or process changes, a location uses its diagram to identify opportunities to eliminate, minimize or reuse water. Our locations also use proper housekeeping and

best management practices to minimize impacts caused by stormwater runoff.

In 2020, we analyzed our total water withdrawal to identify the sources from which we withdrew water; capture the total water withdrawal in regions identified as having water stress; and break down our water withdrawal between fresh water and other water.

Our global operations withdrew 4,146.4 megaliters (1.1 billion gallons) of fresh water in 2020. The 14.5 percent decrease from 2019 was mainly due to decreased production during the global pandemic.

### TOTAL WATER WITHDRAWAL

	Megaliters Withdrawn	Withdrawal Intensity (megaliters withdrawn per billion dollars of revenue)
2017	4,277.70	679.00
2018	4,367.45	642.46
2019	4,846.94	682.19
2020	4,146.44	788.75

Rainwater not included. Data changes from prior reporting are due to updated information becoming available.

## 2020 WATER WITHDRAWAL BY SOURCE

Source		All Areas (megaliters)	Areas with Water Stress (megaliters)
Surface Water		0	0
Fresh Water		0	0
Other Water		0	0
Groundwater		39.51	39.51
Fresh Water		39.51	39.51
Other Water		0	0
Seawater		0	0
Fresh Water		0	0
Other Water		0	0
Produced Water		0	0
Fresh Water		0	0
Other Water		0	0
Third-Party Water		4,106.93	1,695.52
Fresh Water		0	0
Other Water		0	0
Third-Party Water Withdrawal by Withdrawal Source	Surface Water		1,021.26
	Groundwater		674.26
	Seawater		0
	Produced Water		0
Total Water Withdrawal		4,146.44	1,735.03

Fresh water contains 1,000 milligrams of total dissolved solids per liter or less. Other water contains more than 1,000 milligrams of total dissolved solids per liter.

## WASTEWATER

We require our larger water users, which represent 67.5 percent of total use, and locations that discharge wastewater directly to surface water to report on their water discharges at least annually. As with water withdraw, discharge information is obtained from utility invoices, discharge monitoring reports, metering or estimation.

Our internal standard for water and wastewater management requires that locations characterize their wastewater to assess the potential environmental impact associated with their discharge and identify any regulatory requirements that may apply because of water quality standards, pre-treatment standards and effluent limitation guidelines. Our ultimate goal is compliance with location-specific water discharge permit limits.

Most of our operations discharge to local wastewater plants, with many conducting onsite pretreatment prior to discharge. As such, we operate within the stringent requirements in our discharge permits and consents with oversight from various stakeholders. We have no facilities that operate in locations without local discharge requirements.

## CASE STUDY

# LEAK RELEASES EMPLOYEE INGENUITY

Faced with 11,000 cubic meters (2.9 million gallons) of contaminated stormwater, our Howmet Köfém location in Hungary tapped into employee ingenuity to remediate the water for either reuse or safe discharge into the municipal sewage system.

In June 2020, a technical issue caused approximately 95 cubic meters (25,000 gallons) of an undiluted oil/water emulsion to be discharged into the onsite stormwater management system. Although contained, the leak was difficult to detect due to the affected system's physical size and high production volume. Increasing concentrations of oil in the monitored stormwater alerted the site to the issue.



*Contained stormwater*

Options for remediating 11,000 cubic meters of stormwater, such as transporting it offsite for treatment, were limited and expensive. Instead, a site supervisor devised a plan to remediate limited batches – 700 to 1,500 cubic meters (185,000 to 396,000

gallons) at a time – using the small onsite emulsion treatment facility.

Completed in two months, the project cost US\$15,000 compared to US\$640,000 for offsite treatment. The site used two-thirds of the remediated stormwater in its cooling system and permissibly discharged the rest into the municipal sewage system with continuous quality control.



## WASTE AND SPILLS

*Our responsibility as environmental stewards is to eliminate or minimize our manufacturing waste, find alternative uses and recycling options for what we do generate, and effectively manage the safe disposal of what remains.*

We give priority to higher-volume waste and waste that has the potential to significantly impact the environment. We recycle 100 percent of the aluminum dross from our two casthouses and send salt cake, which is slag generated during the recovery of aluminum from rotary furnaces, for recycling rather than landfilling. Some locations are also finding alternatives to landfilling polishing dust and sludge, grit blast and nickel sludge. Other types of waste that we continue to evaluate for reuse and recycling opportunities include garnet, aluminum hydroxide sludge, caustic and limestone.

We consider all of our metals as valuable materials from both an economic and environmental footprint perspective and believe they require careful handling and processing to avoid waste. We have a detailed program to recycle scrap metal from our processes either in-house through our casthouses and melt shops in a closed recycling loop or externally through scrap handlers and processors. We landfill zero scrap metal.

In 2020, we landfilled 25,300 metric tons of waste. The year-over-year decline of 15.3 percent was due to pandemic-related decreases in production. Waste intensity increased from 4.2 to 4.8 mainly due to lower revenue and unchanged waste volumes associated with fixed plant maintenance.

We began tracking hazardous waste generated and recycled during 2020. Our classification of a hazardous waste is based

on the prevailing regulatory requirements in the jurisdictions where our locations generate the waste.

In 2020, we generated 23,120 metric tons of hazardous waste and recycled 7,800 metric tons (33.7 percent).

### LANDFILLED WASTE

	Waste (thousand metric tons)	Waste Intensity (thousand metric tons of waste per billion dollars of revenue)
2016	27.32	4.62
2017	25.05	3.98
2018	27.81	4.09
2019	29.88	4.20
2020	25.30	4.81

*Data changes from prior reporting are due to updated information becoming available. Not included in the 2020 data are two one-time disposals of waste into a regulated landfill: 4,790 metric tons due to a cleanup of a former quarry used for the burning of swarf waste; and 2,320 metric tons to decommission a production line and prepare a new site for its location.*

## CASE STUDY

# STOPPING A WASTE AND COST ISSUE COLD

When confronted with a potential paint supply issue that would increase both costs and waste, we came up cold.

The paint used on our Dura-Bright® Wheels has a shelf life of around three months. With soft demand in 2020 due to the pandemic, about 2.7 metric tons of paint were at risk of expiring. An additional complication was obtaining fresh paint quickly enough to replace the expired paint at a time when supply chains were disrupted globally.

While exploring storage options to extend the paint's shelf life, our Wheels Global Best Practice Group learned that the paint manufacturer stores its product at minus 18 degrees Celsius to slow the paint's natural curing. Our locations were already refrigerating the paint at minus 4 degrees Celsius, leading our process experts to conduct batch sampling tests at the lower temperature.

We began storing the paint at the lower temperature, diverting more than 1.5 metric tons of paint – a hazardous waste – from the landfill and saving US\$121,100 in paint costs in 2020. We disposed of the remaining paint that we could not save before it expired through third-party hazardous waste handlers.



*An employee loads paint into a freezer for storage.*

Although there was a slight increase in energy use to get the storage freezers to the lower temperature, ongoing energy consumption is nominally the same as before. In addition to the costs savings and diverted hazardous waste, we avoided the destruction of valuable paint products that require significant energy and raw materials to produce. The replacement paint also would have needed to be shipped by air in refrigerated crates.

## SPILLS

We use internal standards, safeguards and processes to prevent spills and then respond quickly and effectively to minimize the impact when one does occur.

Our locations are required to have a spill prevention control and countermeasure or similar plan in place if they meet specific volume thresholds for oil or oil products. This plan includes employee training on spill prevention and response that is provided upon hiring and annually thereafter. Every location must follow our spill-related engineering standards and audit guidelines and have a spill response plan in place.

All spills above 20 liters (5.3 gallons) and outside of a designated containment area must be reported in our internal incident management system. This system drives an analysis of root cause and contributing factors, and it also ensures corrective measures are put in place to prevent a reoccurrence.

Our very stringent reporting threshold increases the visibility of spills to our leadership to facilitate information sharing across facilities and enhancing incident awareness. As in 2019, we had zero reportable spills in 2020.

We define a significant spill as one that is in excess of 1,893 liters (500 gallons) and/or meets our definition of a major environmental incident, which includes [CERCLA](#) reportable releases. We had zero significant spills or major environmental incidents in 2020, which is identical to our 2019 performance.

## REMEDIATION

We are involved in ongoing and long-term assessment, cleanup and monitoring of contamination resulting from historic releases and disposal practices at current, former, divested and third-party properties.

In 2020, our payments for these activities were approximately US\$2 million.

Our remediation reserve balance was approximately US\$10 million at December 31, 2020. It reflects the most probable costs to remediate identified environmental conditions for which costs can be reasonably estimated.

## CASE STUDY

# RETURN OF THE NATIVE GRASSES

A limestone quarry previously filled with burnt titanium byproduct now boasts verdant native grasses following a five-year remediation project at our Washington, Missouri, location in the U.S.

During the manufacture of titanium alloy aerospace components, the location produces a byproduct known as swarf, which is a type of metal fines. Titanium alloy swarf is easily ignited and can pose a fire risk when accumulated in large quantities unless rendered inert through controlled burning.

The location currently sends all its swarf to a third party for repurposing. Prior to finding this reuse option in 2014, the site's previous operator transported the swarf to an adjacent closed limestone quarry and burned it with permission from the Missouri Department of Natural Resources (MDNR) and the city to turn it into an inert material. More than 4,500 metric tons of burnt swarf had accumulated in the quarry over the nearly five decades since the location began operations in 1967.

Following its acquisition of the site in 2015, Howmet Aerospace (then known as Alcoa Inc.) began investigating potential remediation approaches. Because there were no available reuse options for burnt swarf, the location secured approval from MDNR to remove and dispose of the inert material in an off-site landfill. The final remediation steps were adding a layer of soil to the quarry area and seeding it with native grasses.

Completed in 2020, the project has brought the quarry back to a natural vegetative state.



# ENVIRONMENTAL COMPLIANCE

*Our true north is defined in our global [Code of Conduct](#) – Howmet Aerospace is committed to operating in a manner that respects and protects the environment wherever we are located.*

This means we will not compromise our environmental values for profit or production. We will respond truthfully and responsibly to questions and concerns about our environmental actions and the impact of our operations on the environment.

We use an environmental compliance process and environmental management system. Both provide our management and employees, particularly our environmental professionals, with the information, tools and verification they need to ensure our compliance with environmental laws, regulations and requirements across the globe.

When an environmental incident occurs, our environmental compliance process helps ensure that we undertake an appropriate technical and legal review. We identify root causes, associated risks and corrective actions necessary to achieve sustainable compliance. We keep our senior management informed of our environmental compliance record and maintain an ongoing dialogue with them. In return, they provide the resources and ensure the open-door culture that affirms environmental compliance as a top priority for the company.

We follow a six-step process as part of our environmental compliance process and management system:

1. We identify non-compliance issues through several mechanisms, including internal EHS audits, corporate environmental compliance reviews, self-assessments and external agency reviews, using the following hierarchy:

- ▶ Determine the facts related to the situation or incident;
- ▶ Ascertain applicable law and regulation;
- ▶ Apply the law or regulation to the particular facts; and
- ▶ If the facts contravene the applicable law or regulation, identify the matter as a non-compliance in our environmental management system regardless of how the matter was discovered.

2. We log the non-compliances into our environmental management system and report the matter to internal stakeholders and, when appropriate, external regulators or government agencies.
3. We initiate a root cause analysis and develop a written action plan, which includes a schedule to remedy the incident and attain compliance.
4. The action plan is reviewed by internal and, if necessary, external environmental professionals to arrive at a consensus that we are taking appropriate corrective action.
5. We implement the action plan, and our team of environmental professionals monitors and tracks progress toward completion.
6. We close the matter once we have implemented all corrective actions, achieved compliance and verified that a system is in place to prevent reoccurrence and sustain compliance.

In 2020, we had 45 environmental non-compliance incidents. None of these resulted in a significant fine, which we define as greater than US\$25,000.

#### ENVIRONMENTAL NON-COMPLIANCE PERFORMANCE

	Significant Fines (US\$)	Number of Significant Non-Monetary Sanctions	Number of Dispute Resolutions
2016	0	0	0
2017	231,878	0	0
2018	59,000	0	0
2019	0	0	0
2020	0	0	1

*Non-monetary sanctions include actions that we are ordered to take to ensure our operations return to, or remain in, compliance. Significant refers to sanctions that we consider high risk based on the costs required to address the issue. Dispute resolutions refer to cases brought through dispute resolution mechanisms.*

## CHEMICAL MANAGEMENT

*A major focus within our company is avoiding supply chain disruptions linked to chemical management regulations, such as the European Union's Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).*

Our global chemical compliance team ensures we maximize internal synergies and coordination and cover all relevant regulations and market/customer initiatives. Team members also work to provide the information our customers need for their own compliance programs.

While we do not manufacture chemicals, we use them in our production processes either directly or as ingredients in other products that we use. Our chemical compliance team works with each of our businesses to ensure we are adhering to all requirements and actively seeking substitutions for chemicals that various regulations deem substances of very high concern. This can be challenging, as substitute substances ideally should not impact our process efficiency or product quality and properties. That's why we work closely with our customers to validate a new substance before making a permanent substitution.

We have been successful in finding material substitutions for various applications, but others will require more time and effort. Until targeted chemicals are eliminated from our manufacturing processes, we will continue to enforce our stringent requirements for their safe handling and use.

In 2020, we started submitting substance notifications to the Substances of Concern In articles as such or in complex objects (Products) database – also known as SCIP. These notifications are for products that we manufacture or import for commercialization

into Europe that contain a substance on the REACH candidate list above 0.1 percent in weight.

In support of our aerospace customers, we are an active member of the International Aerospace Environmental Group. Formed by the major aerospace companies, the group addresses the complexity and variability of global laws and regulations impacting health and the environment, including REACH.



By serving on the IAEG board of directors, committees and working groups, our employees are contributing to the development of tools and voluntary consensus standards to address key chemical management and environmental issues. They are also acquiring valuable insight into the needs of the aerospace industry as well as gaining access to useful tools and knowledge.





# SOCIAL

## PEOPLE

*To recruit, attract, develop and retain world-class talent, we've created a culture that embraces diversity, drives inclusion, and empowers and engages our employees.*

We offer an integrated approach, which we call the People Experience, that enables our employees to own their development and create rewarding careers that draw on their aptitudes and support their ambitions. We provide learning and development opportunities and equip our managers to provide ongoing coaching and feedback so employees maximize their performance and potential, delivering success for Howmet Aerospace.

In 2020, we faced the unprecedented challenge of the COVID-19 pandemic and the complexity of establishing Howmet Aerospace as a new but recognizable company. We took action to address lower demand and reduced revenue, including closing sites and restructuring our workforce. The reduction in employees was difficult but necessary, and we completed it with respect and dignity for our former colleagues in accordance with our inclusive, respectful and values-based company culture.

### DIVERSITY, EQUITY AND INCLUSION

Events in 2020, particularly in the United States, underscored the importance and power of DEI in our company and the communities where we operate.

We have partnered with key external organizations that focus on DEI, including the [Human Rights Campaign](#), the [National Hispanic Corporate Council](#) and [Diversity Best Practices](#), to review and continuously improve our initiatives. We continue to seek partners to further ensure no discrimination or implicit bias is tolerated in the implementation of our policies and processes.

During 2020, we renewed our commitment to supporting our six employee resource groups – Howmet African Heritage Network, Howmet Hispanic Network, Howmet Next Generation Network, Howmet Pride Network, Howmet Veterans Network and Howmet Women's Network. Although sponsored by executive leadership and funded by the company, they are run by employees with HR support and guidance.

The ERGs provide workplace networks for employees who have shared characteristics, special interests or life experiences. They offer a conduit to professional development, strengthen business impact internally and externally, and promote commitments to a diverse workplace.

During 2020, the ERGs provided a positive way for the company to increase investment in policies promoting diversity by helping direct dedicated company resources toward employee education, community building and social impact initiatives. We enabled:

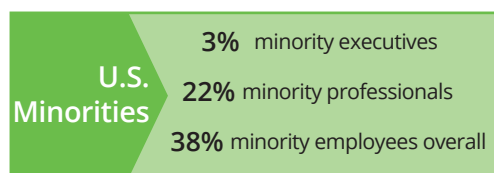
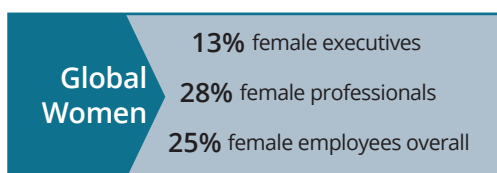
- ▶ Focus groups and listening sessions

with ERG members and interested employees;

- ▶ The inclusion of ERG leaders in company leadership development programs and funding for DEI conference attendance; and
- ▶ Engagement through community outreach and ERG Howmet Foundation grant nominations.

We also offered diversity awareness training on implicit bias and added leadership inclusion to our leadership competency development in 2020.

## 2020 WOMEN AND U.S. MINORITY REPRESENTATION



Minorities represent employees who identify as Asian, African American, Alaska Native, American Indian, Black, Hispanic, Latino, Native Hawaiian, Pacific Islander, or two or more races.

## 2020 EMPLOYEES

	Contract		Type	
	Permanent	Temporary	Full-time	Part-time
Male	13,747	92	13,697	142
Female	4,629	39	4,569	99
Total	18,376	131	18,266	241

Data does not include employees in Germany due to data privacy laws regarding employment type.

## 2020 EMPLOYEE DIVERSITY

	Gender		Age		
	Male	Female	Under 30	30-50	Over 50
Board of Directors	7	3	0	2	8
Officers and Assistant Officers	5	4	0	4	5
Employees	13,839	4,668	2,037	8,918	7,548

Four employees did not provide their date of birth. Data does not include employees in Germany due to data privacy laws regarding gender and age. In 2020, we announced the 2021 addition of [Sharon R. Barner](#) to the Board of Directors.

## 2020 EMPLOYEES BY REGION

	Permanent	Temporary
Asia	734	49
Australia	78	0
Europe	5,604	88
North America	12,885	8
South America	17	0

Europe includes Middle East and Africa. Data includes employees in Germany.

## 2020 NEW EMPLOYEE HIRES BY AGE

	Male	Female	Not Specified	Total
Under 30	438	182	1	621
30-50	638	238	1	877
Over 50	183	71	0	254

Six new hires did not provide their date of birth.

## 2020 NEW EMPLOYEE HIRES BY REGION

	Male	Female	Not Specified	Total
Asia	34	21	0	55
Australia	0	0	0	0
Europe	409	107	1	517
North America	805	365	1	1,171
South America	13	2	0	15

## 2020 TURNOVER RATE

Category	Percent
Voluntary	10
Involuntary	27
Overall	37

## 2020 EMPLOYEES BY COUNTRY

	Permanent	Temporary
Australia	78	0
Austria	1	0
Belgium	6	0
Brazil	17	0
Canada	448	0
China	336	2
Czech Republic	2	0
France	1,991	25
Germany	942	14
Hong Kong	9	1
Hungary	1,275	3
Italy	7	0
Japan	386	46
Mexico	1,613	1
Morocco	109	6
Netherlands	6	0
Poland	4	0
Singapore	1	0
South Africa	2	0
South Korea	2	0
Spain	6	0
Switzerland	5	0
United Kingdom	1,248	40
United States	10,824	7

Data includes employees in Germany.

## 2020 EMPLOYEE TURNOVER BY AGE

	Male	Female	Total
Under 30	1,264	477	1,741
30-50	2,281	868	3,149
Over 50	1,477	576	2,053

*One employee did not provide their date of birth.*

## 2020 EMPLOYEE TURNOVER BY REGION

	Male	Female	Total
Asia	204	38	242
Australia	5	6	11
Europe	756	190	946
North America	4,062	1,685	5,747
South America	8	2	10

## EMPLOYEE DEVELOPMENT

We are committed to helping our employees develop the skills and knowledge they need to be successful at each stage of their careers.

We drive development throughout the organization through our Talent Management Center of Excellence and global human resources network. The center oversees leadership development and corporate talent management, which includes career and performance management, learning and our Global People System (GPS) centralized talent management system.

During the pandemic, we were able to continue leadership development by shifting programs to virtual instructor-led workshops using video teleconference software and online learning modules. When possible, we continued critical in-person programs in small-group settings that complied with local social distancing mandates and guidelines.

## LEADERSHIP DEVELOPMENT

We continuously build and prepare our leadership succession pipeline for our most critical roles and ensure that we have strong and confident employees to lead our business, teams and project initiatives.

Our Executive Leadership Team sponsors a series of progressive development programs that combine industry-led training, coaching and development experiences with informational sessions led by our leaders. These programs align industry expertise, development plans and required competencies to ensure that employees are developed in a way that:

- ▶ Reinforces our competencies and values through comprehensive and experiential learning;
- ▶ Shares our direction and strategy through leader-led learning sessions focused on Howmet practices, services and philosophies;
- ▶ Aligns participants to our direction with executive-level sponsorship and guidance;
- ▶ Integrates personalized coaching and mentoring into learning based on comprehensive 360 feedback and development needs assessments;
- ▶ Develops leadership skills, presence and perspective through practice and alignment with on-the-job stretch assignments and roles; and
- ▶ Facilitates the expansion of individual networks to facilitate cross-company connections.

Our core program structure progresses through three critical courses designed for early-career to senior-level development.

## CORE LEADERSHIP DEVELOPMENT PROGRAM

Course	Course Description	Sponsor	Audience	2020 Participants
Howmet Organizational Leader Development Program	Advancing leaders to build a strong and successful organization	Chief executive officer	Mid to senior leaders, managers of managers, and organizational and functional leaders	17
Howmet Management Essentials	Building people leaders who engage, develop and coach employees to success	Chief human resources officer	New and existing people managers	40
Howmet Business Essentials	Building business acumen to support strong decisions and direction	Chief financial officer and chief commercial officer	Individual contributors and leaders	30

## CAREER AND PERFORMANCE MANAGEMENT

Our performance management process begins with a designated goal-setting period, where employees and managers set both performance and development goals in an annual performance plan. Throughout the year, managers conduct a variety of check-ins to ensure that goals are monitored, supported and adjusted as needed.

We house performance plans and evaluations for more than 4,500 global employees in GPS, which tracked more than 14,000 individual performance and development goals in 2020. Employees are evaluated on their goals as well as accomplishments, impacts and behaviors during a year-end evaluation.

## TALENT MANAGEMENT PLATFORM

In addition to performance management, GPS is available to all our employees globally to facilitate delivery and completion tracking of a vast array of ethics, compliance, safety and technical training.

In 2020, our online catalog consisted of 2,370 courses, and our employees completed more

than 20,000 individual training actions in the system. Our Talent Management COE, human resources professionals and global safety teams continue to collaborate to expand employee use of GPS.

## 2020 ONLINE TRAINING

Number of Online Courses	2,370
Total Course Completions	20,207
Participants in Leadership Courses	217

## LOCATION-BASED TRAINING

Leadership development and online learning address a portion of our training effort. Experts and facilitators across our locations identify, assess, design and deliver individual role-related training to support employee onboarding and individual training plans, which include safety and compliance at the shop floor level.

Based on location-specific needs and requirements, local training coordinators may deliver in-person training in a classroom setting or during daily toolbox meetings.

## CASE STUDY

# A PERSONAL VIEW: MENTORSHIPS AND SPONSORSHIPS



*Gina Govojdean, metal flow path and operational excellence manager at our Niles, Ohio, location in the U.S., is a strong proponent of mentorships and sponsorships. Here, she shares her experience.*

Mentorships and sponsorships have been very pivotal in my career. They provide me with a sounding board

and feedback loop regarding my career growth and expose me to opportunities that I otherwise may not know about.

When looking for mentors and sponsors, I seek qualities that I could grow into. I met my current mentor while working in internal audit. In meetings, she was always extremely focused on making sure everyone in the room understood and learned something. That appealed to me, so I reached out and asked if she would become a mentor. She gives me a fresh perspective and meaningful guidance on ideas that I have.

Sponsors are familiar with your work and speak up or advocate for you. My manager is a strong sponsor, spending time to understand the value that I can bring to the business and giving me opportunities to do that.

Having mentors and sponsors has really enabled me to challenge myself. Knowing that I have a support system where I can talk through issues and get feedback has been tremendously helpful and engaging. It's given me confidence to take stretch roles in the organization, which has advanced my career.

I'm now serving as an informal mentor to three individuals, and I feel the experience has made me a much more empathetic and effective leader.

For the company, the return on investment in mentoring and sponsorship is far greater than would be gained through any financial reward. You have a much more engaged and loyal workforce that will work hard to grow the company as they grow their careers.

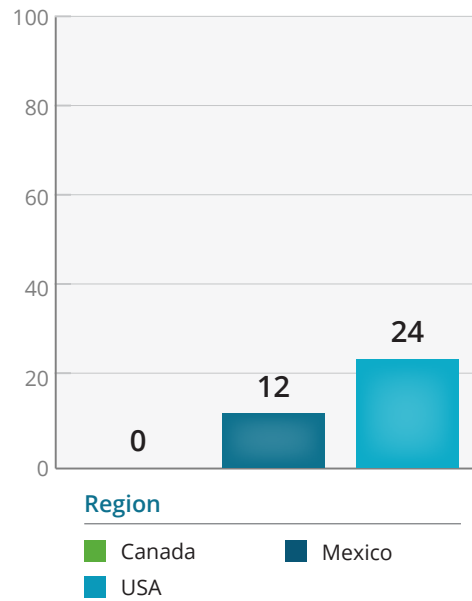
## LABOR RELATIONS

We believe in freedom of association. We respect an individual's choice to be represented by – or not be represented by – a union in accordance with the laws of the countries in which we operate.

Where we have a union, we respect and engage the union in candid discussions regarding the needs of the business and its impact on employees.

### 2020 UNION REPRESENTATION

*Percent of employees*



*No information is collected for other countries due to data privacy considerations.*



# HEALTH AND SAFETY

*Our strong health and safety culture empowers our employees and contractors to take personal responsibility for their actions and the safety of their coworkers. This culture is supported by internal policies, standards, rules and procedures that clearly articulate our stringent requirements for working safely in all of our facilities worldwide.*

[Our Environment, Health and Safety Policy](#) and the values contained in our [Code of Conduct](#) set requirements for which our businesses and locations are held accountable and measured against. Our leaders, from the co-CEOs through line management, are expected to communicate the policy to all employees and third parties, such as contractors, suppliers and visitors.

We embed annual health and safety goals and objectives into our operating plans to progress against our ultimate goal of zero incidents. The planning process addresses issues related to audit findings and non-compliances against internal and external standards and regulations. The plan is linked to our EHS management system and reviewed on a regular basis, including quarterly updates with our Executive Lead Team. Our employees also have access to the plan as well as health and safety requirements and results to ensure transparency and accountability.

Health and safety programs can only be truly effective if they include the input from our employees. Ensuring broad engagement – both formally and informally – is at the center of our program deployment. Formal engagement may occur locally, such as through works councils in many of our European locations. Depending on union agreements, employee participation may be organized through safety committees or other platforms to allow for input and discussion.

Our EHS management system is key to the successful implementation of our EHS Policy. The system aligns with the [ISO 45001](#) (occupational health and safety) and [ISO 14001-2015](#) (environmental management systems) standards. The standards' requirements are incorporated into our site-specific EHS management systems, which cover all of our production sites and largest office sites and applies to all employees, contractors and visitors.

Additional information on our health and safety programs can be found on our [website](#).

## SAFETY

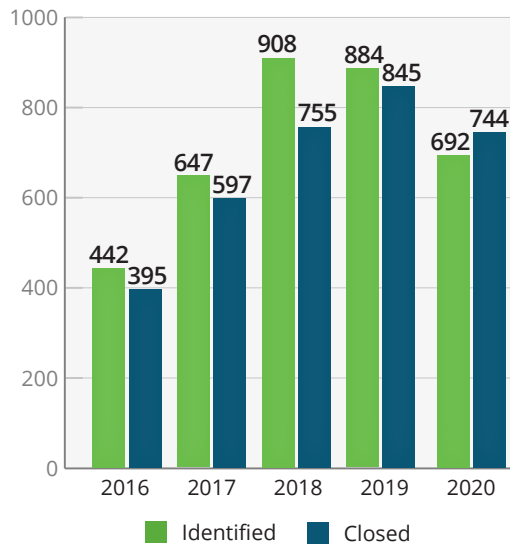
We had zero work-related employee or contractor fatalities in 2020, which was the 17th consecutive year that our locations achieved this important milestone.

Fatality prevention remains a major focus. We require each business to review its operations annually and identify key EHS risk areas for improvement at least once per quarter. Following the separation of Arconic Corporation, our safety risk profile changed due to the majority of heavy manufacturing being spun off.

We prioritize fatal and serious injury risks that have the potential for life-altering outcomes. Mobile equipment remains the highest fatality risk within our global operations.

Under our fatality prevention program, we have a multidisciplinary team at each site that is chaired by the location manager. The team proactively identifies safety risks, looks for root cause, ensures competent support, addresses gaps and reduces risk.

#### FATALITY RISKS



We support a safety culture in which employees feel comfortable speaking up to raise health and safety questions and concerns. They are encouraged to express their views and opinions so we can proactively identify and mitigate actual and potential risks. Our Anti-Retaliation Policy prohibits retaliation against employees who report a concern in good faith.

In 2020, all of our key safety rates remained significantly below the most recent U.S. industry averages. At 0.24, our days away, restricted and transfer (DART) rate was 4.0 percent lower than prior year. Our lost workday rate was flat compared to 2019, and our total recordable incident rate declined 21.1 percent. We attribute the improvements to ongoing EHS system maturity, but direct and indirect impact of the COVID-19 pandemic also influenced the outcomes.

At the end of 2020, 68.8 percent of our locations globally had worked 12 consecutive months without a DART incident, 83.3 percent without a lost workday and 47.9 percent without a total recordable incident.

#### INCIDENT RATES

*Employees and supervised workers*

	Fatalities	Days Away, Restricted and Transfer	Lost Workday	Total Recordable Incident
2016	0	0.42	0.11	1.13
2017	0	0.49	0.18	1.23
2018	0	0.35	0.20	1.08
2019	0	0.25	0.12	0.90
2020	0	0.24	0.12	0.71

*Lost workday rate represents the number of injuries and illnesses resulting in one or more days away from work per 100 full-time workers. Days away, restricted and transfer rate includes lost workday cases plus cases that involve days of restricted duty and job transfer per 100 full-time workers. Total recordable incident rate represents the number of injuries and illnesses resulting in days away from work, job transfer or restriction, medical treatment or other recordables per 100 full-time workers.*

## INCIDENT RATES

*Contractors and contracted services*

	Fatalities	Days Away, Restricted and Transfer	Lost Workday	Total Recordable Incident
2016	0	0.38	0.16	1.14
2017	0	0.69	0.41	1.24
2018	0	0.36	0.31	1.04
2019	0	0.36	0.24	0.84
2020	0	0.11	0.11	0.50

## INCIDENT INVESTIGATION

We have incident reporting and investigation requirements embedded in our policies and standards. When an incident occurs, the location must follow a pre-defined process to ensure root causes are identified and subsequently eliminated. Depending on the severity of an incident, management involvement is escalated.

Our incident performance is reviewed by our Executive Lead Team each quarter and once per year by the Howmet Aerospace Board of Directors.

## AUDITS

Depending on a location's inherent and controlled risks, we periodically conduct an audit to assess the location's implementation of the EHS management system and conformance with regulatory and Howmet Aerospace requirements.

## STOP COIN

Our employees have the authority to refuse or stop unsafe work. We expect them to exercise this authority, and we reward them when they do through our STOP for Safety Coin Campaign. Our aim is to motivate employees to be vigilant in their work and always stop and seek help when presented with a potential safety hazard. This philosophy

extends to health, environmental and other production observations.

Employees who refuse or stop unsafe work for themselves or their colleagues are awarded an aluminum STOP coin and receive local and, in some cases, global recognition. We have distributed thousands of STOP coins to these safety advocates since the program's launch in 2016.

## TRAINING

It's important to inform and educate our employees, contractors and visitors about workplace health and safety. Our training programs are based on a needs assessment that includes input on an individual's exposure, workplace, and legal and other requirements.

In early 2020 before the start of the pandemic, more than 60 new Howmet leaders attended an in-person, two-day intensive course focused on EHS, including fatality prevention. The goal was to better inform and equip our leaders, who are key enablers for successful health and safety management.

Each of our EHS professionals spent more than 22 hours on professional development in 2020 through virtual global EHS conferences covering various topics.

## OCCUPATIONAL HEALTH

Regardless of the size of the location, all of our employees and select embedded contractors have access to occupational medicine services to optimize their health and well-being. These services include regulatory-required or Howmet Aerospace risk-based chemical surveillance evaluations, fitness-for-duty assessments, hearing evaluations, lung-function testing, work-related injury and illness evaluation and treatment, substance abuse testing and job-related immunizations.

We provide occupational medical services in agreement with internal standards that set expectations around confidentiality, qualifications, quality and regulatory requirements. Where we involve third-party services, the providers must abide by our internal standards as a minimum.

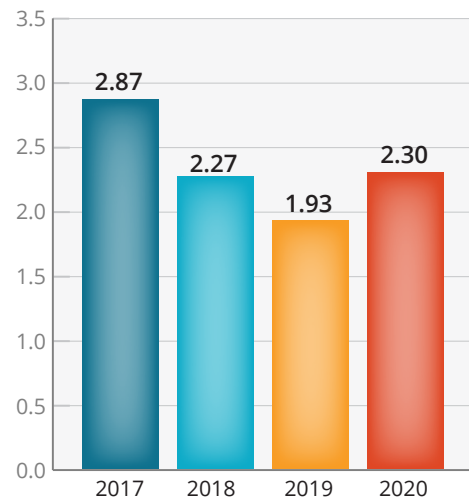
The key health risks within our operations are hearing conservation, working with chemical substances and ergonomic injuries.

Although we did not achieve our goal to reduce the hearing shift rate among our employees to 1 percent or lower by 2020, we did make significant progress through the achievement of a 19.9 percent reduction from the 2017 baseline. This ambitious goal strives to have the hearing loss of employees exposed to noise be the same as the non-exposed employees.

Given the importance of avoiding work-related hearing loss, we have extended the goal to 2025. We will continue to implement important initiatives that are part of our hearing conservation program, building on detailed noise exposure assessments and providing the correct hearing protection with the right noise-level reduction.

## HEARING SHIFT RATE

Percent



*Data for 2016 is not included due to a lack of representative data. We paused hearing tests in 2020 due to social distancing concerns during the pandemic. As a result, we completed approximately 57 percent fewer tests.*

Our businesses and locations also continued efforts to reduce employee exposure to chemicals in 2020. Actions included eliminating specific chemicals, moving employees away from areas where chemicals are used and ensuring stringent adherence to requirements for personal protective equipment.

During 2020, we identified and eliminated an additional 65 ergonomic risks through job analyses, workplace surveys and other proactive methods.

## CASE STUDY

# LIGHTENING ERGONOMIC RISKS

A phased, four-year project in the packaging and shipping department at our Toulouse, France, location eliminated 17 significant ergonomic risks, resulting in zero ergonomic injuries for five consecutive years. A bonus was an improved workflow that was named a finalist for the prestigious Trophées des Usines (Industrial Plants Trophy) in the lean manufacturing category.

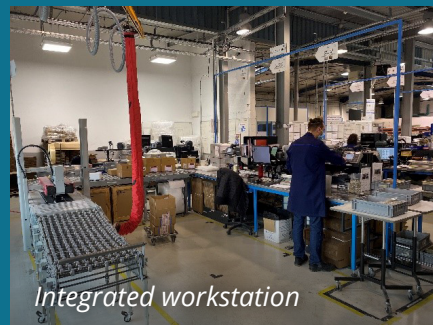
Prior to the improvements, employees selected screws and bolts from multi-level shelves to fill customer orders, often stretching and twisting to reach products. They manually picked up and carried cardboard shipping boxes, which could weigh up to 15 kilograms (33 pounds) when full, from station to station in the department. Each employee manually handled an average of 30 metric tons annually.

Today, an employee picks products for shipping using a vertical storage carousel that rotates shelves filled with products to the employee's level. Conveyors reduce the amount of time employees must manually carry a loaded box, bringing the average handling to less than 10 metric tons per employee per year. An integrated packaging workstation has all necessary equipment and supplies within easy reach, and a vacuum gripper balancer system at the end of the flow is used to place full boxes onto a shipping pallet.

In 2020, the department had zero significant ergonomic risks remaining and zero ergonomic incidents among its employees.



*Vertical storage carousel*



*Integrated workstation*



*Vacuum gripper balancer system*

## HEALTH PROMOTION

As part of our responsibilities as an employer, we work to ensure our employees and their dependents have access to quality healthcare.

Subject to location, country and union contract, we have a broad range of healthcare coverage arrangements. The following address the majority of our employees:

- ▶ Canada, France, Germany, Hungary and the United Kingdom: Employees have state-regulated access to high-quality and accessible health services. Depending on the plan, we may contribute financially to state or private insurance funds as part of the labor premiums. Depending on the country, we provide additional coverage related to health and welfare for some populations.
- ▶ Mexico: Employees have required government-provided healthcare, and we also provide additional coverage depending on union or non-union status.
- ▶ United States: Employees have access to company-sponsored health and welfare plans, including medical, prescription, dental, vision, life and disability coverage. These plans are administered by large and well-known third-party insurance providers.

The emerging COVID-19 pandemic in early 2020 defined the majority of the health promotion campaigns deployed by our operations during the year.

We initiated an elaborate global campaign aimed at promoting off-the-job COVID-19 prevention to protect our employees, their families and the communities in which we operate. This campaign, which continued for several months, included training sessions, posters, leadership messages and information sharing to educate employees on risk, recognition of symptoms, prevention and response.

Due to the perceived cumulative risk of a flu pandemic during the COVID-19 pandemic, we coordinated a global initiative to encourage flu vaccination for the 2020/21 season. We reduced the barriers and improved accessibility to a flu shot by on-site inoculations with our medical service providers or with our affiliated pharmacies.

Individual employee results from any company health promotion are treated confidentially. We analyze only aggregated and anonymized information to evaluate the efficacy of our activities.



## STAKEHOLDER AND COMMUNITY ENGAGEMENT

*We earn our social license to operate through open dialogue with a broad range of stakeholders in an atmosphere of respect and trust and with the highest regard for human rights, economic opportunity and the natural environment.*

Our stakeholders include our customers, suppliers and employees; the people who live in the communities where we operate; shareholders and lenders who provide our financial capital; the public agencies that regulate our businesses; government representatives; and the non-governmental organizations (NGOs) that are interested in what we are doing.

Each of our locations defines the stakeholder groups with which to engage and – taking into account the nature of our facilities – identifies tools and approaches to ensure that collaborations with these stakeholders are robust, effective and transparent.

[Howmet Aerospace Foundation](#) is an independently endowed private foundation with assets of approximately \$170 million in 2020. The foundation directs a significant portion of its grantmaking each year to nonprofit organizations in communities around the world to develop partnerships and strategies that address specific community needs and interests where Howmet Aerospace has operating facilities.

Through collaboration with our nonprofit partners, our initiatives make quality STEM education opportunities available to students; support engineering and technical skills training through community colleges, technical schools and universities around the world; and help create access for underrepresented individuals to the STEM fields.

In 2020, Howmet Aerospace Foundation approved more than \$5.2 million in STEM-focused grants and disbursed more than \$2.3 million. These included US\$1 million over five years for the Pittsburgh School District's [FIRST](#) initiative to support STEM education.



The foundation also supported initiatives during the year to lessen the impact of COVID-19 and other disasters in the communities where we operate. Grants included:

- ▶ US\$200,000 to Cruz Roja Mexicana Delegación Acuña for emergency support to hospitals and other medical services in Acuña, Mexico;
- ▶ US\$435,000 to the American Red Cross Los Angeles Region for victims of ongoing wildfires and overall disaster preparedness through the PrepareLA 3.0 campaign;
- ▶ US\$45,000 to Aktion Lichtblicke e.V. for emergency support for families in Bestwig, Germany; and
- ▶ US\$100,000 to the Greater Pittsburgh Community Food Bank for emergency food support;

In addition to grants, our employees volunteer their time, energy and skills to community programs and projects to help local nonprofit organizations.



# PRODUCT SAFETY

*Product safety is an integral part of our business model and strategy for growth and value creation. We are committed to offering products that meet the highest safety standards throughout their entire life cycle.*

We seek to meet or exceed regulations and industry and market requirements while addressing the safety needs and concerns of our customers and other stakeholders. We strive to constantly evaluate and improve our products to ensure they're as safe as possible.

Regardless of job assignment or title, all of our employees are mindful of, and held accountable for, the quality of their product or service for both internal and external customers.

Our Product Safety Management System (PSMS) and policy provide the foundation of product safety and quality. This systematic approach guides our planning, implementation and control of the processes needed to assure product safety during all stages of the manufacturing process.

We minimize risks related to, or in direct support of, product manufacturing throughout the product life cycle. We continuously improve and mitigate product risk through identification, data collection and analysis, and continuous risk assessment associated with product recalls, counterfeit parts, number of airworthiness directives and monetary losses. Through our PSMS, we seek to proactively assess and control risks before they result in the failure of manufacturing systems.

## ASSURANCE

Providing independent assurance on product safety is critical to our PSMS. We conduct extensive internal audits and work with our customers, who frequently conduct product safety audits at our facilities.

We also engage third parties to conduct annual audits to ensure product safety as part of AS9100D, IATF 16949 (ISO/TS 16949) certification and other relevant product safety and quality standards. All third-party certifications related to product safety and quality are available on our website.

## PRODUCT SAFETY-RELATED RECALLS

	Voluntary	Involuntary
2018	0	0
2019	0	0
2020	0	0

Consistent with the definition in the U.S. Consumer Product Safety Commission's Recall Handbook, a recall is any repair, replacement, refund or notice/warning program intended to protect consumers from products that present a safety risk.

## DETECTED OR SUSPECTED COUNTERFEIT PARTS IN HOWMET AEROSPACE OPERATIONS

	Actual	Suspected
2018	0	0
2019	0	0
2020	0	0

Counterfeit parts and suspected counterfeit parts are defined according to definitions contained in U.S. 48 CFR Part 252.246-7007, Contractor Counterfeit Electronic Part Detection and Avoidance System. Counterfeit parts may increase the risk of safety incidents due to low product quality.

## AIRWORTHINESS DIRECTIVES

	Number
2018	0
2019	0
2020	0

*An airworthiness directive is a legally enforceable rule issued by the Federal Aviation Administration (FAA), the Department of Defense (DoD) or non-U.S. equivalent that applies to aircraft, aircraft engines, propellers and appliances.*

## PRODUCT SAFETY MONETARY LOSSES

	U.S. Dollars
2018	Not disclosed
2019	0
2020	0

*Losses are from legal proceedings associated with product safety, including but not limited to the enforcement of relevant industry regulations, such as the U.S. Consumer Product Safety Act, U.S. Federal Aviation Act and U.S. National Electrical Code.*

Like other manufacturers, we and our subsidiaries have been named as defendants in legal proceedings relating to product safety in which third parties have alleged that products manufactured by us or our subsidiaries are defective and have contributed to incidents that caused injuries to people and/or damage to property. The precise nature of these proceedings is varied, but rare.

In 2018, we settled LeBlanc, et al. v. Howmet et al., a matter arising out of a helicopter accident in the Gulf of Mexico. We resolved the case for an undisclosed payment.

This information reflects legal proceedings involving only the continuing operations of Howmet Aerospace Inc. It does not include subsidiaries of Arconic Inc., which were transferred to Arconic Corporation as of the April 2020 separation transaction.

# GOVERNANCE

## ETHICS, COMPLIANCE AND HUMAN RIGHTS

*As a global company with operations in diverse cultural, political and economic environments, we are committed to conducting business ethically and in compliance with all applicable laws.*

Guiding our actions are our values, [Code of Conduct](#) and key corporate policies, including our [Anti-Corruption](#), [Human Rights](#), [Anti-Harassment](#), [Anti-Retaliation](#), and [Environment, Health and Safety](#) policies.

Our [Integrity Line](#) is available 24/7 to all employees and external stakeholders who wish to seek advice or raise a concern. In 2020, we received 413 new concerns, questions and comments through this hotline and ensured that each was addressed. As a result of issues raised, we implemented 38 corrective actions during the year that included discipline, training, coaching and process improvements.

The amount of activity and the resulting corrective actions were often linked to the COVID-19 pandemic due to significant staff reductions, temporary plant closures and a focus on reporting COVID-related activities. Reporting on COVID issues from shop floor and other employees provided valuable input – mostly early in the pandemic – and informed our strategy. Each facility has a COVID team that addresses any COVID-related reports immediately.

During 2020, we had zero monetary losses or penalties associated with incidents of corruption, bribery or illicit international trade. In countries ranked in the “E” or “F” bands of Transparency International’s Government Defense Anti-Corruption Index, we had US\$94.0 million in combined revenue from our four businesses. Of the total revenue in the E and F bands, 80 percent was generated in China from all four businesses. In Brazil, four of our businesses generated 13 percent of the total E and F band revenue. The remaining 7 percent of E and F band revenue came from Morocco, United Arab Emirates, Republic of Cote d’Ivoire, Jordan, Qatar, Bahrain, Pakistan and Sri Lanka, with our Howmet Engine Products and Fastening Systems businesses generating the majority of this revenue.

Our Ethics and Compliance (E&C) Program is designed to effectively:

- ▶ Foster an organizational culture of integrity, ethical decision-making and compliance with our Values;

- ▶ Assure that our directors, officers and employees conduct business with the highest standards of ethics and integrity and in compliance with all applicable laws and regulations; and
- ▶ Prevent and detect unlawful or unethical conduct through risk assessments and due diligence.

Consistent with our commitment to the highest ethical standards, the program is designed to be global, sustainable and continuously improving to identify and address our existing and emerging ethical, legal and regulatory risks. Our Board of Directors and senior management support and oversee the program.

Despite the challenges of the pandemic, we maintained a strong E&C Program during the year and successfully brought our values to the establishment of Howmet Aerospace in April 2020. New and ongoing initiatives included:

- ▶ Partnering with our global learning management team to improve training completion reporting;
- ▶ Assisting our human resources leadership to ensure 100 percent completion for online training courses;
- ▶ Operationalizing our New Hire Onboarding Training Program to include quarterly training for new hires on the Code of Conduct;

- ▶ Deploying an annual Conflicts of Interest Survey, which we distributed to salaried employees globally with a 100 percent completion rate;
- ▶ Initiating the design and implementation of a third-party solution that will provide oversight of third-party intermediary relationships, including risk-based reviews, due diligence, annual certification tracking and ongoing monitoring;
- ▶ Training employees on topics that included the Code of Conduct, anti-harassment and anti-corruption. All training is tracked with the goal of 100 percent completion.
- ▶ Partnering with our general counsel's office to issue a monthly "Tear Sheet," which provides training on significant legal and compliance issues based on prominent, real-life cases; and
- ▶ Issuing monthly Leading with Integrity newsletters covering compliance topics, and using internal investigations as case studies to emphasize the importance of compliance with internal policies and procedures and the discipline implemented for these cases.

Additional information on our ethics and compliance program can be found on [howmet.com](https://www.howmet.com).

## SUPPLY CHAIN

*Sustainability in our supply chain is a reciprocal relationship. Our suppliers help us achieve our sustainability goals, while we help them drive sustainability into their processes and practices.*

As a global company, we conduct business with more than 14,000 suppliers around the world who are expected to demonstrate responsible and sustainable conduct by following our [Supplier Standards](#) and our [Code of Conduct](#).

Our interactions with suppliers are based on the highest standards of integrity and compliance with all relevant laws and regulations. (See the [Ethics and Compliance section](#) of our website for additional information.)

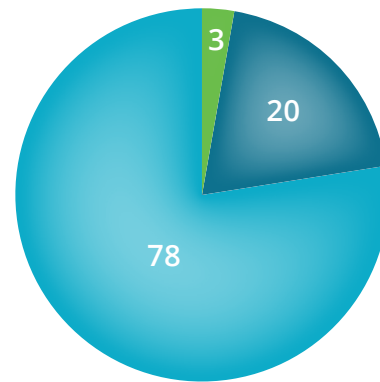
Before considering any potential new supplier, we perform due diligence to ensure the supplier is not in the consolidated database of the U.S. Department of Commerce International Trade Commission's denied and restricted parties. We do not partner with any suppliers who appear on this list.

We are committed to the responsible sourcing of materials and components necessary for the production and functionality of the products we manufacture.

Additional information is available in our most current Specialized Disclosure Report on Conflict Minerals, which can be downloaded from [howmet.com](http://howmet.com).

### 2020 SPEND BY REGION

Percent



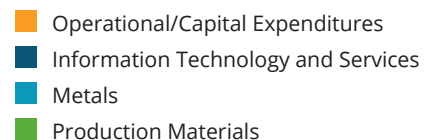
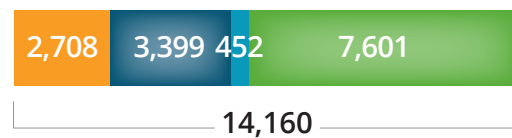
#### Region



Numbers do not add up to 100 percent due to rounding.

### 2020 SUPPLIERS BY MAJOR CATEGORY

Number



## GLOBAL SUPPLIER SUSTAINABILITY PROGRAM

In 2020, we measured the sustainability of key suppliers through our Global Supplier Sustainability Program. Each of these suppliers received more than US\$5 million of our annual spend.

The program consists of four components:

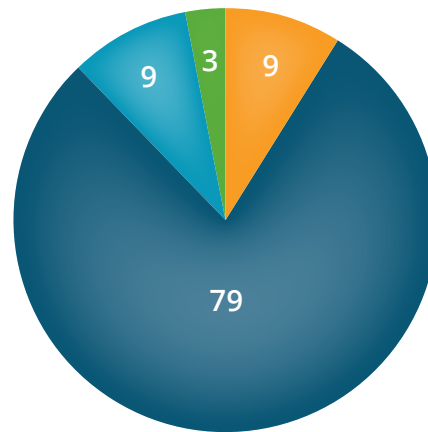
- ▶ **Communicate expectations:** Our Supplier Standards outline our expectations regarding supplier sustainability.
- ▶ **Assess suppliers:** We conduct assessments of the key suppliers to evaluate the maturity of their sustainability programs and determine where improvement may be advisable.
- ▶ **Develop and educate:** We may share our perspective of a supplier's sustainability questionnaire results with the supplier and discuss opportunities for improvement.
- ▶ **Monitor:** We periodically reassess our suppliers to evaluate if any changes have occurred that would influence a supplier's maturity level rating. It is our expectation that supplier sustainability should improve over time.

The 2020 assessment found that 88 percent of key suppliers that responded to the survey had sustainability programs considered leading or active.

The survey response rate was 68 percent. The decline from prior year was potentially due to the difficult economic situation and reduced workforce in the aerospace supply chain in 2020.

### 2020 KEY SUPPLIER ASSESSMENT RESULTS

*Percent of key suppliers*



#### Sustainability Maturity Rating

- Leading
- Active
- Emerging
- Lagging

# CYBERSECURITY

*Ensuring our systems and operations are protected from cyber threats and data security breaches is of paramount importance.*

We continuously evaluate our cyber defenses and procedures with the understanding that adversaries frequently adjust their methods of attack. We adapt our capabilities accordingly to maintain readiness.

Incident response and other security metrics ensure our mature standards are met continuously, and these metrics capture quantifiable improvements to our overall cybersecurity program. We also have operational targets regarding the urgency and frequency of patching systems to remediate vulnerabilities.

Other objectives of our cybersecurity program include securing and hardening critical business industrial control systems; developing and maintaining incident reporting programs; and providing guidance and recommendations to our businesses while maintaining appropriate cyber hygiene.

We use an array of technologies and processes to protect and secure our computing platforms, assets and data, including:

- ▶ Perimeter protection and intrusion prevention;
- ▶ Continuous environmental monitoring and alerting;
- ▶ Operating/application system security, configuration, baselining and hardening;
- ▶ Endpoint detection and protection tools, such as antimalware and remote forensics;
- ▶ Continual compliance assessments

supplemented with internal and external audits;

- ▶ Security standards and policies based on industry-leading cybersecurity frameworks;
- ▶ A data governance and protection program involving both technical and procedural controls; and
- ▶ Physical (video surveillance, locks, etc.) and technical safeguards at our facilities. Many of the technical safeguards are derived from the National Institute of Standards and Technology (NIST) Special Publication 800-53 and NIST Special Publication 800-171.

We also subscribe to managed security service providers (MSSPs) that offer continuous monitoring. Vital to our cybersecurity program, MSSPs assist with early threat detection and protection and escalate issues to our corporate cybersecurity team. In addition, we have a company-wide data program to protect personally identifiable information. This includes coverage for the European Union General Data Protection Regulation (GDPR), California Consumer Privacy Act (CCPA) and other privacy regulations, as well as our intellectual property protection utilities to avoid data loss.

Our cybersecurity program includes benchmarking with key customers, suppliers and other third parties to identify best practices. When evaluating third parties that will serve as business resources, we evaluate their cybersecurity practices to ensure their standards meet or exceed our expectations.



This is achieved by confirming certain industry certifications are in place and having the third party attest to the controls through a cybersecurity questionnaire.

## STRUCTURE

Our chief information security officer (CISO) is responsible for overseeing our cybersecurity program across the corporation and supervises our corporate information team.

The CISO reports directly to the chief information officer (CIO), who is responsible for the usability, implementation and management of our information and computing systems. On a quarterly basis, the CIO and CISO bring cybersecurity improvements and challenges to the attention of the [Cybersecurity Advisory Subcommittee](#) of the Howmet Aerospace Board of Directors. This subcommittee oversees the company's management of cybersecurity, ensuring that appropriate enterprise risk mitigations and strategies are in place.

Our employees also play an important role in ensuring strong cybersecurity. We have a robust program of user testing, training and education that is focused on improving user engagement in cyber defense through safe behavior. We benchmark testing results against other organizations in the industry.

## RISK AND VULNERABILITY ASSESSMENTS

To assess our cybersecurity risks, we use the following three-pronged approach that is focused on technology, policy and people:

- ▶ Compilation of a global inventory of systems and resources;
- ▶ Identification of critical assets to prioritize time-sensitive work, such as patches; and

- ▶ Identification of potential weaknesses and threats while developing solutions to close them.

We conduct internal vulnerability assessments on a frequent basis in addition to performing external cybersecurity penetration tests at least annually. We also conduct regular internal audits, with all significant controls tested.

The array of technologies and processes that we use for assessing threats and vulnerabilities include:

- ▶ Performing vulnerability scans;
- ▶ Monitoring vulnerability intelligence services to stay aware of emerging threats and exposures;
- ▶ Ensuring vulnerability tools are updated on a constant basis; and
- ▶ Ensuring software and applications are patched regularly.

Our information technology infrastructure, applications and network connectivity standards are governed by a set of requirements. We test these controls to assess the current state of our solutions relative to these standards. The results of each assessment are documented and reported, and we execute remediation strategies where gaps exist.

## INCIDENT RESPONSE

Our response to a cybersecurity incident is based on an industry standard framework developed by NIST. It consists of four phases:

- ▶ Preparation;
- ▶ Detection and analysis;
- ▶ Containment, eradication and recovery; and
- ▶ Post-incident activity.

We use a “kill chain” to evaluate the ability of each security control to detect, deny, disrupt, degrade and contain an attack aimed at disabling IT services, disrupting computing or data communications, or exfiltrating data.

In 2020, we had six data breaches, with none considered material. No customer data was involved, which meant it was not necessary for us to notify customers of a breach as required either by law or voluntarily as part of our process.

We investigated each data breach and identified and addressed root causes to avoid reoccurrence.

# GLOBAL REPORTING INITIATIVE INDEX

*This index helps readers compare the information from our ESG report, annual report and website with the [GRI Standards](#).*

This report has been prepared in accordance with the GRI Standards: Core option.

## GRI 102 GENERAL DISCLOSURES 2016

Disclosure	Description	Location
Organizational Profile		
102-1	Name of the organization	Howmet Aerospace Inc.
102-2	Activities, brands, products, and services	<a href="#">Markets and Product Lines</a>
102-3	Location of headquarters	Pittsburgh, Pennsylvania
102-4	Location of operations	<a href="#">Locations</a>
102-5	Ownership and legal form	Howmet Aerospace is a publicly traded company listed on the New York Stock Exchange (NYSE: HWM).
102-6	Markets served	<a href="#">Markets and Product Lines</a>
102-7	Scale of the organization	<a href="#">Form 10-K</a> (pages 1 to 6)
102-8	Information on employees and other workers	People
102-9	Supply chain	Supply Chain
102-10	Significant changes to the organization and its supply chain	<a href="#">Form 10-K</a> (pages 1 to 10) Supply Chain
102-11	Precautionary Principle or approach	<a href="#">Environmental Management at Howmet Aerospace</a>
102-12	External initiatives	Stakeholder and Community Engagement

Disclosure	Description	Location
102-13	Membership of associations	Key memberships include: Aerospace Industries Association (AIA) Aluminum Association (during Q1 2020) American Chamber of Commerce to the EU (AmCham EU) International Aerospace Environmental Group (IAEG) Motor & Equipment Manufacturers Association (MEMA)
Strategy		
102-14	Statement from senior decision-maker	CEO Statement
102-15	Key impacts, risks, and opportunities	<a href="#">Form 10-K</a> (pages 11 to 25)
Ethics and Integrity		
102-16	Values, principles, standards, and norms of behavior	<a href="#">Our Fundamentals</a> <a href="#">Human Rights Policy</a> <a href="#">Ethics and Compliance</a>
102-17	Mechanisms for advice and concerns about ethics	<a href="#">Integrity Line</a>
Governance		
102-18	Governance structure	<a href="#">Corporate Governance</a> <a href="#">Form 10-K</a> (page 101) <a href="#">Proxy Statement</a> (pages 22 to 31)
102-19	Delegating authority	<a href="#">Bylaws</a> (Article 4)
102-20	Executive-level responsibility for economic, environmental, and social topics	<a href="#">Corporate Governance Guidelines</a> (Corporate Citizenship section)
102-21	Consulting stakeholders on economic, environmental, and social topics	<a href="#">Proxy Statement</a> (page 31)
102-22	Composition of the highest governance body and its committees	<a href="#">Board of Directors</a> <a href="#">Board Committees</a>
102-23	Chair of the highest governance body	<a href="#">Form 10-K</a> (page 101) <a href="#">Proxy Statement</a> (page 23)
102-24	Nominating and selecting the highest governance body	<a href="#">Proxy Statement</a> (page 15) <a href="#">Certificate of Incorporation</a> <a href="#">Bylaws</a> <a href="#">Governance and Nominating Committee Charter</a>
102-25	Conflicts of interest	<a href="#">Form 10-K</a> (page 102) <a href="#">Governance and Nominating Committee Charter</a>
102-26	Role of highest governance body in setting purpose, values, and strategy	<a href="#">Corporate Governance Guidelines</a>

Disclosure	Description	Location
102-27	Collective knowledge of highest governance body	<a href="#">Proxy Statement</a> (pages 15 to 27)
102-28	Evaluating the highest governance body's performance	<a href="#">Proxy Statement</a> (pages 16 to 27) <a href="#">Governance and Nominating Committee Charter</a>
102-29	Identifying and managing economic, environmental, and social impacts	<a href="#">Proxy Statement</a> (page 24) <a href="#">Audit Committee Charter</a> <a href="#">Finance Committee Charter</a> <a href="#">Corporate Governance Guidelines</a> (Corporate Citizenship section)
102-30	Effectiveness of risk management processes	<a href="#">Proxy Statement</a> (page 24) <a href="#">Audit Committee Charter</a> <a href="#">Finance Committee Charter</a> <a href="#">Corporate Governance Guidelines</a> (Corporate Citizenship section)
102-31	Review of economic, environmental, and social topics	<a href="#">Corporate Governance Guidelines</a> (Corporate Citizenship section)
102-32	Highest governance body's role in sustainability reporting	<a href="#">Corporate Governance Guidelines</a> (Corporate Citizenship section)
102-33	Communicating critical concerns	<a href="#">Proxy Statement</a> (pages 18 to 31) <a href="#">Integrity Line</a>
102-35	Remuneration policies for the highest governance body and senior executives	<a href="#">Form 10-K</a> (page 102) <a href="#">Proxy Statement</a> (pages 17 to 20 and 41 to 66) <a href="#">Corporate Governance Guidelines</a> <a href="#">Compensation and Benefits Committee Charter</a>
102-36	Process for determining remuneration	<a href="#">Form 10-K</a> (page 102) <a href="#">Proxy Statement</a> (pages 17 to 50) <a href="#">Corporate Governance Guidelines</a> <a href="#">Compensation and Benefits Committee Charter</a>
102-37	Stakeholders' involvement in remuneration	<a href="#">Form 10-K</a> (page 102) <a href="#">Proxy Statement</a> (page 41) <a href="#">Compensation and Benefits Committee Charter</a>
102-38	Annual total compensation ratio	<a href="#">Form 10-K</a> (page 102) <a href="#">Proxy Statement</a> (page 66)
102-39	Percentage increase in annual total compensation ratio	18.5 percent decrease over 2019

Disclosure	Description	Location
Stakeholder Engagement		
102-40	List of stakeholder groups	Stakeholder and Community Engagement
102-41	Collective bargaining agreements	People
102-42	Identifying and selecting stakeholders	Stakeholder and Community Engagement
102-43	Approach to stakeholder engagement	Stakeholder and Community Engagement
102-44	Key topics and concerns raised	No major stakeholder issues were raised in the reporting year.
Reporting Practice		
102-45	Entities included in the consolidated financial statements	<a href="#">Form 10-K</a> (pages 1 to 10)
102-46	Defining report content and topic boundaries	Reporting and Materiality
102-47	List of material topics	Reporting and Materiality
102-48	Restatements of information	Found throughout the report.
102-49	Changes in reporting	Changes in reporting from prior year are indicated throughout the report
102-50	Reporting period	2020
102-51	Date of most recent report	2019
102-52	Reporting cycle	Annual
102-53	Contact point for questions regarding the report	Marcel van der Velden Director, Environment, Health and Safety and Sustainability
102-54	Claims of reporting in accordance with the GRI Standards	This report has been prepared in accordance with the GRI Standards: Core option.
102-55	GRI content index	Global Reporting Initiative Index
102-56	External assurance	Reporting and Materiality

## MATERIAL TOPICS

Disclosure	Description	Location
GRI 201: Economic Performance 2016		
201-1	Direct economic value generated and distributed	2020 Annual Report
GRI 205: Anti-corruption 2016		
205-3	Confirmed incidents of corruption and actions taken	Ethics, Compliance and Human Rights

Disclosure	Description	Location
GRI 302: Energy 2016		
302-1	Energy consumption within the organization	Energy
302-2	Energy consumption outside of the organization	Energy
302-3	Energy intensity	Energy
302-4	Reduction of energy consumption	Energy
302-5	Reductions in energy requirements of products and services	Energy
GRI 303: Water and Effluents 2018		
303-1	Interactions with water as a shared resource	Water
303-2	Management of water discharge-related impacts	Water
303-3	Water withdrawal	Water
GRI 305: Emissions 2016		
305-1	Direct (Scope 1) GHG emissions	Climate Change
305-2	Energy indirect (Scope 2) GHG emissions	Climate Change
305-3	Other indirect (Scope 3) GHG emissions	Climate Change
305-4	GHG emissions intensity	Climate Change
305-5	Reduction of GHG emissions	Climate Change
305-7	Nitrogen oxides (NO <sub>x</sub> ), sulfur oxides (SO <sub>x</sub> ), and other significant air emissions	Air Emissions
GRI 306: Effluents and Waste 2016		
306-2	Waste by type and disposal method	Waste and Spills
306-3	Significant spills	Waste and Spills
GRI 307: Environmental Compliance 2016		
307-1	Non-compliance with environmental laws and regulations	Environmental Compliance
GRI 403: Occupational Health and Safety 2018		
403-1	Occupational health and safety management system	Health and Safety
403-2	Hazard identification, risk assessment, and incident investigation	Health and Safety
403-3	Occupational health services	Health and Safety
403-4	Worker participation, consultation, and communication on occupational health and safety	Health and Safety



Disclosure	Description	Location
403-5	Worker training on occupational health and safety	Health and Safety
403-6	Promotion of worker health	Health and Safety
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Health and Safety
403-8	Workers covered by an occupational health and safety management system	Health and Safety
403-9	Work-related injuries	Health and Safety
403-10	Work-related ill health	Health and Safety
GRI 405: Diversity and Equal Opportunity 2016		
405-1	Diversity of governance bodies and employees	<a href="#">Leadership</a> People
GRI 416: Customer Health and Safety 2016		
416-1	Assessment of the health and safety impacts of product and service categories	Product Safety Chemical Management
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	Product Safety
GRI 418: Customer Privacy 2016		
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	Cybersecurity

# SUSTAINABILITY ACCOUNTING STANDARDS BOARD INDEX

*Howmet Aerospace is committed to reporting against the aerospace and defense sustainability accounting standard from SASB. This index provides a guide to our reporting against this standard.*

Topic	Accounting Metric	Category	Code	Report Location
Energy Management	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	Quantitative	RT-AE-130a.1	Energy
Hazardous Waste Management	Amount of hazardous waste generated, percentage recycled	Quantitative	RT-AE-150a.1	Waste and Spills
	Number and aggregate quantity of reportable spills, quantity recovered	Quantitative	RT-AE-150a.2	Waste and Spills
Data Security	(1) Number of data breaches, (2) percentage involving confidential information	Quantitative	RT-AE-230a.1	Cybersecurity
	Description of approach to identifying and addressing data security risks in (1) company operations and (2) products	Discussion and Analysis	RT-AE-230a.2	Cybersecurity
Product Safety	Number of recalls issued, total units recalled	Quantitative	RT-AE-250a.1	Product Safety
	Number of counterfeit parts detected, percentage avoided	Quantitative	RT-AE-250a.2	Product Safety
	Number of Airworthiness Directives received, total units affected	Quantitative	RT-AE-250a.3	Product Safety
	Total amount of monetary losses as a result of legal proceedings associated with product safety	Quantitative	RT-AE-250a.4	Product Safety
Fuel Economy & Emissions in Use Phase	Revenue from alternative energy-related products	Quantitative	RT-AE-410a.1	Not reported
	Description of approach and discussion of strategy to address fuel economy and greenhouse gas (GHG) emissions of products	Discussion and Analysis	RT-AE-410a.2	Products

Topic	Accounting Metric	Category	Code	Report Location
Materials Sourcing	Description of the management of risks associated with the use of critical materials	Discussion and Analysis	RT-AE-440a.1	Supply Chain
Business Ethics	Total amount of monetary losses as a result of legal proceedings associated with incidents of corruption, bribery, and/or illicit international trade	Quantitative	RT-AE-510a.1	Ethics, Compliance and Human Rights
	Revenue from countries ranked in the “E” or “F” Band of Transparency International’s Government Defence Anti-Corruption Index	Quantitative	RT-AE-510a.2	Ethics, Compliance and Human Rights
	Discussion of processes to manage business ethics risks throughout the value chain	Discussion and Analysis	RT-AE-510a.3	Ethics, Compliance and Human Rights Supply Chain



**HOWMET  
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Howmet Aerospace Inc., headquartered in Pittsburgh, Pennsylvania, is a leading global provider of advanced engineered solutions for the aerospace and transportation industries. Our primary businesses focus on jet engine components, aerospace fastening systems and titanium structural parts necessary for mission-critical performance and efficiency in aerospace and defense applications, as well as forged wheels for commercial transportation.

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