

2018 INTEGRATED REPORT

# CASE STUDIES



ArcelorMittal

## Case study 1



# Implementing campaigns and audits to enhance safety



Guided by our commitment to health and safety, ArcelorMittal has many formal training programs, protocols and procedures in place to reduce risk and ensure a safe workplace.

We designed the Journey to Zero campaign to challenge our employees to work safely. The goal is to eliminate workplace injuries and fatalities. While we have made significant progress in recent years there is still much that needs to be done to help ensure safe, healthy, quality working lives for our people.

"In 2018, we focused on communication, increasing the safety skills of supervisors, and conducted additional HIRAC-Lite training, audits and observations. These communications also included a review of fatality prevention standards and lessons about the importance of situational awareness," said Steve Thompson, director, USA health and safety.

One element of the plan was a push to engage new supervisors and managers.

"They were required to attend their new employee safety orientations, exposing them to plant rules and programs," said Brian Wagner, manager, health and safety systems, ArcelorMittal USA. "The training demonstrated how to conduct a productive safety meeting, which highlights safety hazards existing in the work environment."

All new supervisors were also required to attend a three-day program to increase their technical safety skills. This included lessons in hazard recognition and incident investigations. The training is necessary, because it reinforces our focus on employees returning home safely every day.

Another element was the continuation of division safety audits, which is a joint effort between ArcelorMittal and the USW. The audits focused on three priorities: progress on the division's specific health and safety plan, a review of the operational safety evaluation (OSE) and a review of compliance to the regulations established by the Occupational Safety and Health Administration (OSHA) and other regulatory agencies.

"To make the improvements that were needed we first needed to identify the issues and deficiencies that existed," said Thompson. "We must do that to prevent injuries and improve compliance."

Gary Bender, United Steelworkers of America health and safety coordinator, added, "The most important thing we can do is to audit departments. When we do that we're 'checking the temperature' of a division's safety culture. The organization then has an opportunity to correct any defects and learn from the process."

Housekeeping is an area of concern, since many of our company's lost time injuries (LTIs) are the result of trips and falls.

A robust system of audits can lead to a reduced number of LTIs by identifying strengths and weaknesses, highlighting areas where improvements are needed, and creating a process and procedure to correct problems.

By anticipating health and safety issues, ArcelorMittal is in a better position to prevent them, helping eliminate workplace injuries and fatalities on our Journey to Zero.





## Embracing Industry 4.0 with Android tablets for maintenance inspections



ArcelorMittal continues to invest in digitalization efforts for maintenance inspections and has recently found success with Android tablets.

We began using mobile technology for maintenance inspections with mixed results in 2008. The first-generation platform ran on Windows Mobile. The units were inexpensive and very small, however they tended to be unstable due to limited memory resources. Connecting the devices to the business network was also cumbersome, as a third-party software was required to connect either by WiFi or by docking. As a result, the units were not widely adopted.

In 2013, the EXP platform was updated to run on Windows tablets. The robust nature of the available hardware made the system much more reliable, and additional functionality was made available such as the recording of images as a part of the inspection result. However, the hardware was expensive, amounting to \$3,100, and the user experience was much more complex, again leading to limited adoption on the plant floor.

In 2018, the EXP platform was updated to allow the inspection routes to be completed using Android devices. With the commonality of Android technology, the interfaces with the handheld devices became very reliable and hardware-independent. No software installation is required on the handheld device beyond the installation of an application from the Google App store and updates are automatic. Once the tablet is configured and connected to the business network, open internet access is blocked to prevent abuse of the technology.

The user experience is very simple, especially considering the widespread use of Android smart phones in the workforce.

The handhelds with rugged cases cost only around \$125 each, nearly \$3,000 less than the cost of the Windows tablets.

This new platform has had a rapid rate of adoption since the rollout in early March, especially for operator inspections and frequent maintenance inspections. Users can use the handheld devices with little to no training, and the inspection results can be entered in real time. The process is significantly more efficient and reliable than any of the past platforms.

"These new Android tablets are going to be a game changer. We are seeing great gains already in the recording of observations from the operator rounds, and the detected problems are available immediately to the maintenance department," explains Zach Alexander, reliability manager, cold mill, ArcelorMittal Indiana Harbor.

On average, over 150,000 inspection results are entered into the system each month across the USA plants. Our Indiana Harbor plant is using these handheld devices, along with paper inspection routes, and have collected more than 50,000 equipment inspections points per month. I/N Tek and I/N Kote also collects 25,000 equipment inspection points per month, and our Weirton and Cleveland locations have started using the new handhelds and similar results are expected.

Wider use of the inspection system will lead to a clearer understanding of the condition of assets for maintenance managers. Proactive repairs can be scheduled ahead of failures that lead to production delays. The additional information available to those conducting inspections are expected to lead to improved safety. The goal is more reliable assets, leading to better performance in the delivery of quality products to our customers.

## Case study 1



# Process improvements support sustainable manufacturing goals



As a major supplier to the appliance industry, ArcelorMittal plays a key role in the sustainability of appliance manufacturers.

One way we work with our customers to enhance the efficiency of their operations and products is by engaging ArcelorMittal engineers with our customer's research and development teams. Through this type of co-engineering, they become part of the staff, sit in their space and work in a seamless partnership.

"Our engineers use forming analysis and computer simulations to help our appliance customers optimize the grade and thickness of steel they use," said Erik Mantel, engineer, appliance applications, construction and manufacturing products, ArcelorMittal Global Research and Development. "We do this at the early stages of the platform design process."

The software simulates the forming of the steel – how it will perform in a true manufacturing setting against the customer's parameters. We can identify issues like splitting, cracking and fining before tooling investments are made by the customer.

"They're investing in custom-made stamping tools, and our testing helps them identify potential issues during the design phase to make better purchasing decisions," said Mantel. "If they didn't have this information in advance, they would spend time and money-making changes on the stamping line – and that's expensive to do. We help them maximize what they can get out of our steel, so there's less waste across multiple stages of their production process and an overall reduction in their use of resources."

Recently, our design input helped a customer reduce the overall weight of a free-standing range side panel by 11 percent by utilizing higher-strength steel. This change allowed the customer to reduce the thickness of the side panel, as well as eliminate a complementary structural support which is no longer needed.

ArcelorMittal Global Research and Development is identified across the world as a leader in product development and solutions. Co-engineering provides our customers with a distinct advantage and value-added expertise. Our technical experts provide cost-effective steel solutions which ultimately minimizes our collective footprint.

## Case study 2



# Producing new advanced steel products for automotive



ArcelorMittal continues to step up to the challenge of producing specialized high-strength steels for our automotive customers.

ArcelorMittal Cleveland was recently approved to produce GI TRIP 690 commercially for customers like Fiat Chrysler Automobiles (FCA). Previously, FCA's only option was to import this product grade from Europe for parts in the RAM truck, Pacifica minivan and Jeep Wrangler.

"Customers like FCA are looking to ArcelorMittal to produce new grades of advanced high-strength steels (AHSS) that are stronger and more formable, so they can manufacture a lighter weight vehicle without compromising safety. It's great when we can bring the challenges of the customer to a plant like Cleveland," explained Jim Loch, FCA account manager, ArcelorMittal USA.

It took several years of close collaboration between ArcelorMittal's Global Research and Development Center in East Chicago and the Cleveland facility to get here.

According to Dr. Oleg Yakubovsky, R&D's lead scientist on the development of this grade, "This was a challenging product. ArcelorMittal produces Transformation Induced Plasticity (TRIP) steel grades for other automotive customers, but FCA's specification imposes a tougher requirement."

Typically, when strength is increased, there is some ductility or the formability loss of the steel.

"We had to develop the manufacturing processes to achieve the properties needed — both strong and ductile," said Yakubovsky.

ArcelorMittal Cleveland's Mark Hubbard served as the lead quality engineer as GI TRIP 690 was being developed.

"There were a number of technical hurdles to overcome. This product is unique compared to other TRIP grades we make because it is galvanized, not galvanized, and the customer required some different testing methods," Hubbard explained.

"But the Cleveland hot-dip galvanizing line, and the other upstream operations have a successful track record in adapting our processes for complex TRIP AHSS grades. We were once again successful with this GI TRIP 690 product."

One of the challenges the team had to solve was finding the appropriate annealing cycle at the hot-dip galvanizing line to maintain the strength and ductility of the steel grade.

Cleveland senior quality engineer Luke Operhall, worked with R&D on defining the right annealing cycle. He is proud of the Cleveland team's accomplishment, explaining, "It has been a very fulfilling effort. We started the project unsure of how we'd make it work, but by being willing to adapt and to try new things, we have been able to meet the needs of the customer. The hard work and collaborative approach paid off. In our first few months of commercial production of GI TRIP 690 we consistently met the property requirements."

With the commercialization of this grade for FCA, ArcelorMittal has demonstrated its versatility and flexibility, as well as its commitment to the customer. This success with GI TRIP 690 will help us move forward on even more challenging AHSS grades in the future.



## Case study 3



# ArcelorMittal Tailored Blanks Detroit strategically positioned to serve as key supplier



ArcelorMittal Tailored Blanks, a subsidiary of ArcelorMittal, selected the city of Detroit as the company's first wholly-owned manufacturing operation in the state of Michigan due to its proximity to leading automakers, access to talent and support from local and state governments.

In February 2018, ArcelorMittal leadership, including ArcelorMittal Tailored Blanks Americas President Todd Baker, joined Detroit Mayor Mike Duggan, Michigan Economic Development Council's Chief Business Development Officer Josh Hundt and Detroit Economic Growth Corporation's Director of Real Estate and Financial Services Kenyetta Hairston-Bridges - along with more than 100 other business and community leaders - to celebrate the grand opening of the \$83 million operation located at 8650 Mount Elliot Street in Detroit's I-94 Industrial Park.

"ArcelorMittal's decision to locate at the I-94 Industrial Park is another example of major manufacturers choosing to bring jobs to Detroit, largely because of our business-friendly environment and access to talent. It joins a growing list of manufacturers that are creating new opportunities for Detroit residents and greater momentum for our city, and we are very pleased to welcome them," said Mayor Mike Duggan.

ArcelorMittal Tailored Blanks Detroit produces steel laser-welded blanks that are stamped and assembled into a variety of parts and solutions for the automotive market, including structural rails, door rings, door pillars, door inners and cowl sides. The creation of the state-of-the-art manufacturing facility in Detroit was a strategic business decision for ArcelorMittal and integral to its growth.

"The ability to expand our footprint into Michigan and better serve our automotive customers was made possible by support from the city of Detroit and state of Michigan," said Baker. "Both the city and state governments were instrumental in moving our growth strategy forward while bringing new jobs to — and investing in — the Detroit community."

The city of Detroit approved a tax incentive package to support the operation. The state of Michigan also approved a \$2 million performance-based grant, which is based on achieving milestones related to job creation.

"ArcelorMittal's first facility in Michigan is a significant investment that demonstrates the ongoing growth of the state's economy and the strategic advantage for the world's preeminent steel producer to locate in the automotive global capital," said Jeff Mason, CEO, Michigan Economic Development Corporation.

"Their welding technology is in the vanguard in attaining increased fuel efficiency, and a valuable addition to the state's manufacturing assets. The newly created jobs offer opportunities for skilled-trades technicians, and provide a symbolic presence of promising growth in Detroit's Industrial Park."

The new operation speaks to the level of demand for steel laser-welded products from automakers. The ultimate result of a hot-stamped laser-welded blank is a lighter, stronger solution that improves vehicle crash performance while reducing weight, fuel consumption and emissions.

*Continued on next page*

## Case study 3: ArcelorMittal Tailored Blanks Detroit strategically positioned to serve as key supplier



"ArcelorMittal Tailored Blanks serves as an important bridge between the advanced steels our parent company produces and the solutions our customers demand," said Baker.

"Ten years ago, we had 2 tailored blank operations in the Americas; today we have 9 facilities producing over 15 million welded blanks per year. Our growth confirms the value our technology brings to our customers, delivering the optimal balance of cost, weight and performance in structural car parts."

A transformational moment for ArcelorMittal and the growth of its laser-welded blank offerings took place in 2014 through a partnership with Honda R&D Americas, Inc. Together, ArcelorMittal and Honda co-engineered the industry's first hot-stamped, laser-welded door ring found in the 2014 Acura MDX. The door ring – a key part of the body structure which gives the vehicle its strength and stiffness – replaced conventional multi-piece, spot-weld designs.

The technology is being implemented in additional Honda and Acura vehicles. At the Feb. 26 event, Honda announced its co-engineering efforts with ArcelorMittal on the industry's first inner and outer door ring system found on the all-new 2019 Acura RDX, made with ArcelorMittal steel using ArcelorMittal Tailored Blanks' laser-welding technology.

"The 15-year collaboration between Honda and ArcelorMittal is all about the companies' commitment to safety and the advancement of technology across the industry. The world's first hot-stamped inner and outer door ring system we are launching with the all-new 2019 Acura RDX is just the latest result of our valuable partnership," said Shawn Tarr, principal engineer, Honda R&D Americas, Inc.

The "tailor made" process begins with ArcelorMittal's patented press hardenable steels, Usibor® and Ductibor®, which are aluminum-coated high-strength steels used in hot stamping. Combining Usibor® and Ductibor® into laser-welded blanks offers several significant advantages to automakers including weight savings, improved crash behavior and cost savings through material and manufacturing optimization.

The Usibor® and Ductibor® steel is blanked at one of several local blanking companies then shipped to ArcelorMittal Tailored Blanks Detroit where the enabling technology, called laser ablation, takes place. Once ablated, the steels are welded together, with multiple quality control processes to ensure precision. The blanks are then sent to a hot-stamper to be stamped into the final part required by the automaker.

## Case study 1



# Supplying products that are critical to today's energy markets



ArcelorMittal USA manufactures a vast range of world-class, high-performance steel products and solutions for the energy industry. These include oil and gas exploration and production, transport, refining and storage. We also provide products for the thermal, nuclear and renewable energy industries.

With global energy demand expected to increase about 30 percent by 2025, the global energy landscape is evolving its sources, technological improvements and environmental concerns. As a leader in the production and supply of energy, the U.S. is also one of the world's largest energy consumers. As a company, ArcelorMittal is well positioned to meet the changing needs of this highly demanding market, both nationally and globally.

ArcelorMittal USA's energy products come from substrate generated by five of our domestic steelmaking and finishing facilities: ArcelorMittal Burns Harbor, Cleveland, Indiana Harbor, Riverdale and Coatesville. Our AM/NS Calvert facility and ArcelorMittal Conshohocken locations also produce finished products for the energy market, which source substrate from Indiana Harbor, producing hot-rolled skelp.

ArcelorMittal delivers a variety of steel grades and solutions to the line pipe market, used in the collection, transmission and distribution of oil and natural gas. Our USA operations produce steels used in the manufacture of API-quality, hot-rolled coil products and cut-to-length plate skelp as feedstock for longitudinally and spiral-welded pipe.

Hot-rolled coils are transformed into welded pipes used in the exploration and production of oil and gas as part of the oil country tubular goods (OCTG) market. ArcelorMittal's vast range of OCTG grades meet increasing demand for welded pipes in casing, tubing and drilling operations. We also supply the oil and gas industry with steel plates, hot-rolled coils and tubular products for the construction and operation of offshore platforms and onshore facilities, including refineries, petrochemical, liquid natural gas and fuel storage.

ArcelorMittal USA produces light, flat-rolled and plate for the renewable energy market, which includes wind, hydro and solar energy. High strength steel plates and long sections are used in wind tower structures, concrete-reinforcing bars for tower foundations and electric steels for generators. Steels with specific mechanical properties are used for turbines, water gates and penstocks in hydroelectric plants, as well as products for the solar energy markets. All of these products enable us to create sustainable infrastructure.



## Case study 2



# Saluting our partnership with the U.S. Navy



For more than 70 years, U.S. Navy aircraft carriers have been our nation's first responders — protecting our national security interests and providing aid and assistance to our allies in times of crisis. As a long-time supplier to the shipbuilders who manufacture these vessels for the U.S. Navy, ArcelorMittal focuses on supplying high-quality plate products, as the U.S. government continues to add to its fleet.

"As the sole domestic builder of nuclear-powered aircraft carriers, Huntington Ingalls Industries' Newport News Shipbuilding division purchases more than 90 percent of its plate requirements from ArcelorMittal," said Matt Habenicht, plate sales manager, sales and marketing, ArcelorMittal USA. "We supply both carbon and Navy armor products from all three of our plate mills. We produce special weight-controlled carbon plates at Burns Harbor, and Navy armor plates at Coatesville and Conshohocken. Our full line gauge and grade capabilities allow us a unique opportunity to support such a significant volume required for these vessels."

Habenicht notes that ArcelorMittal and its legacy companies have provided plate for every carrier built in the U.S. The older design Nimitz Class Carrier include the Ronald Reagan and George H.W. Bush. The new Ford-class design includes the first vessel in the class — the USS Gerald R. Ford, CVN 78. There are also two new Ford class carriers under construction: the CVN 79 John F. Kennedy and CVN 80, the Enterprise.

The construction cycle for these massive vessels takes between five and seven years to complete.

Regardless of new or older carriers, the quality requirements for plate is critical to our customers.

"The quality criteria for both surface and flatness have intensified," says Habenicht. "Demand from the U.S. Navy for fabrication cost reductions have flowed down to the material suppliers. We are under greater scrutiny to justify the prices we charge for our plate and to meet higher delivery and quality standards. The fact that our mini-mill competitors are migrating to higher value plate products makes for an even more challenging environment."

While the plate supplied to the Navy is not the majority of our business, the products associated with aircraft carriers and other Navy-related vessels is extremely important to ArcelorMittal, according to Habenicht.

"This business challenges us to keep moving forward with quality, innovation and improved performance," adds Habenicht. "This transfers down our manufacturing stream to help all products improve. Our communication and support of these shipbuilders helps us take a larger view of our plate business and helps us consider new opportunities and better means to support the industry overall."

## Case study 1



# Universal waste: a major component of our facility's recycling initiative



Universal waste is a category of waste materials designated as “hazardous waste,” but contain materials that are very common in home and industrial use. Many ArcelorMittal facilities, such as Burns Harbor, have established an internal system for collecting and properly disposing of universal waste materials.

There are four types of universal waste classifications: hazardous waste batteries, hazardous waste pesticides, hazardous waste mercury-containing equipment and hazardous waste lamps. All four are considered equally critical, but lamps and batteries are the most prevalent and garner the most attention.

According to Dan Amling, engineer, solid waste, MEU, ArcelorMittal Burns Harbor, added pesticides are not present at the Burns Harbor facility and mercury-containing equipment is gradually being replaced. Burns Harbor has more than 150 collection points throughout the facility for batteries and lamps. The recycling process is managed by a local contractor, Safeguard Environmental.

Every container is audited for compliance and emptied every four months. Amling says they are monitored by both internal and external auditors and, most importantly, by the generating department.

He said the Burns Harbor collection is somewhat unique because of the high number of collection points. While it can be a large task to administer, Amling says establishing collection areas at the points of generation has been much more effective than having fewer pick-up points.

“It’s important to properly manage these wastes to ensure that they are recycled appropriately in accordance with federal regulations,” noted Amling.

While not considered universal waste, Burns Harbor also collects aerosols and other pressurized cylinders, along with electronic waste for recycling at many of the same collection points. Other recycled materials include used oil, household type waste and scrap. Recycling is always preferred because it not only saves money, but ensures the responsible use of landfill space and natural resources.

Amling says keeping these recycling options in front of employees at work can also serve as a reminder to encourage their own recycling habits at home. Burns Harbor is planning a collection day where employees can drop off household hazardous waste.

“The most important message for our employees regarding universal waste and recycling is to bring awareness by following simple regulations,” said Amling. “Containers must be labeled properly and kept closed when not adding waste. And just like all good recycling programs, only universal waste may be placed in the containers — no trash.”

Not only is steel the most recyclable material in the world, but our universal waste can now play a role in it too.

## Case study 2



# Operating sustainably with the sale of byproducts



It's widely known that ArcelorMittal Monessen produces coke and ArcelorMittal Burns Harbor makes high-quality steel products, but did you know the facilities also sell their byproducts to the community?

ArcelorMittal Monessen produces five byproducts: tar, light oil, sulfur, liquid ammonium sulfate and clean coke oven gas. Instead of disposing the byproducts, the facility operates sustainably by selling their byproducts where they can be utilized for other important uses. The tar is made into pavement sealer and even psoriasis treatment, while the light oil is a crucial jet fuel additive and sold to major gas companies.

"We could spend thousands of dollars to send our byproducts to a disposal facility, but that isn't a self-sufficient process," explained Dani Skolnekovich, associate engineer, chemical coke producing. Instead, the plant generates \$4 million each year from byproducts revenue.

Ammonium sulfate is a byproduct that both facilities sell to local farmers for fertilizer. Gas from coke ovens contain high amounts of ammonia, which is highly corrosive to the pipelines it travels through during production and can create serious issues. Fortunately, the ammonia from the gas can be converted into useful ammonium sulfate fertilizer.

The Burns Harbor coke plant generates about \$3 million annually from ammonium sulfate sales alone. To enhance customer satisfaction, Burns Harbor recently began operating a high-tech sulfate conditioner which crushes large lumps into a freely flowing granular product. The conditioner's screens separate the fertilizer from chunky foreign contaminants,

resulting in high-purity fertilizer. Truck operators appreciate the ease with which they can handle the crushed product and farmers find it easy to apply the product to their fields.

Fitted with in-built load cells, the conditioner accurately measures the load on each truck. As a result, our customers get precisely the amount of fertilizer they need. It also reduces transportation costs and keeps our customers happy.

This investment has helped ArcelorMittal retain some of its most valuable accounts. Taking the time to listen to our customers — and working hard with them to solve our issues — has left a lasting impact on our relationships.

The dedication to improving technology to enhance the customer experience along with making a profit by operating sustainably is a win-win for ArcelorMittal Monessen and Burns Harbor.



## Case study 1



# Unique public-private partnership contributes to the Cleveland community



ArcelorMittal strives to partner with many local organizations to foster a symbiotic relationship in the community. One example is a unique public-private partnership between ArcelorMittal Cleveland and its local sewer district, which is yielding multiple community benefits.

When a storm sewer pipe at ArcelorMittal Cleveland's property became blocked and started flooding the parking lots of neighboring businesses, the problem needed to be addressed safely, quickly and responsibly.

ArcelorMittal installed a temporary pump to prevent any further flooding while launching a lengthy investigation to try to locate the blockage. It became clear that this portion of the sewer on ArcelorMittal's property would need to be replaced.

As ArcelorMittal began planning work for the replacement of the blocked section, the company engaged with stakeholders close to the issue: the neighboring businesses who had experienced flooding, the Village of Newburgh Heights whose community was served by the storm sewer, and the Northeast Ohio Regional Sewer District (NEORSR).

"We learned that this reach of sewer was part of NEORSR's long-term plan to control combined sewer overflows, known as CSOs, and reduce pollution flowing to the Cuyahoga River and Lake Erie. This particular storm sewer was in NEORSR's plan to be replaced eventually, but not until 2028," explained George Schroeder, lead engineer, ArcelorMittal Cleveland.

"The NEORSR appreciated the opportunity to work with a great partner such as ArcelorMittal on this joint project to achieve both a solution to this immediate flooding issue and accomplish future consent decree required CSO work," explained Doug Lopata, NEORSR CSO program manager.

ArcelorMittal and NEORSR entered into an agreement to replace the blocked storm sewer. The new sewer is larger and can handle much higher volumes. Future improvements to the combined sewer system in this neighborhood and the 23' diameter Southerly Storage Tunnel will greatly reduce combined sewage discharges and improve overall water quality.

The agreement brought both organizations' greatest strengths to the project. In addition to contributing 20 percent of the project cost, ArcelorMittal agreed to serve as project manager, including all engineering design, construction oversight and holding regular progress review meetings. NEORSR agreed to move up the timeframe of the project, provided technical guidance and funded the majority balance of the project. Working together, the public-private partnership brought total costs down and allowed the sewer to be replaced years ahead of schedule.

ArcelorMittal's Schroeder admitted this was an unusual but gratifying project to manage, "This project was truly collaborative at every stage. Internally within ArcelorMittal, we had cooperation and support from many departments. We also worked closely with the neighboring businesses and land owners, the Village leadership and their public safety departments."

This unique project demonstrates the power of public-private partnership and stakeholder engagement around common issues. In this case, working together on a shared solution enabled a more efficient and less expensive project, while yielding positive outcomes for neighbors and the environment.

## Case study 2



# Supporting community and habitat resilience in Southeast Michigan through a new public-private partnership



In October 2018, ArcelorMittal's long-time partner the National Fish and Wildlife Foundation (NFWF) announced the launch of the Southeast Michigan Resilience Fund, a competitive grant program which will provide \$1.2 million in its first year to benefit Southeast Michigan communities and habitats. Work supported by the fund will improve resilience in the face of intensifying environmental stressors related to development, climate, invasive species, nonpoint source pollution and other factors.

Recognizing the need for a coordinated, public-private approach to address these issues, six funders have partnered to create the fund which will be administered by NFWF. ArcelorMittal is the sole corporate funder and is joined by the Fred A. and Barbara M. Erb Family Foundation, the Ralph C. Wilson, Jr. Foundation, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service and the U.S. Forest Service.

"We have worked hand-in-hand with the National Fish and Wildlife Foundation for more than a decade to build resilience across the Great Lakes watershed and successfully advance several public-private partnerships. The launch of the Southeast Michigan Resilience Fund is the next evolution of this work," said William Steers, general manager of corporate responsibility for ArcelorMittal Americas, which recently opened ArcelorMittal Tailored Blanks Detroit, the company's first industrial operation in the state. "We aim to positively impact our communities beyond bricks and mortar

and job creation. We are confident this collaboration will advance the sustainability of the region's waterways by improving water quality and enhancing natural habitat and ecosystem services."

By investing in green stormwater infrastructure solutions, the fund will reduce flooding and other intensifying threats associated with major storm events, while also creating safe, dynamic and enjoyable public green spaces that improve habitat values for wildlife and quality of life for residents.

"This new fund complements and enhances the incredible work already underway in the Great Lakes and particularly in Southeast Michigan," said Jeff Trandahl, executive director and CEO of NFWF. "This is an excellent opportunity to create an even bigger and broader conservation impact for the habitats and communities of the region through a uniquely collaborative approach."

By restoring the region's unique natural areas, the fund will enhance the quality and connectivity of habitat for wildlife, improve the ability of these habitats to withstand and absorb the impact of environmental stressors and make nature more accessible for people.

NFWF will administer an annual competitive grant solicitation and selection process, working closely with the funding partners and an advisory team comprised of federal, state, community and local government representatives, nonprofits and other leading experts.

## Case study 1



# Impressive recognitions in energy excellence



In 2013, ArcelorMittal USA joined the U.S. Department of Energy's Better Plants program and signed a voluntary pledge to reduce our energy intensity by 10 percent in 10 years. To get there, incredible work is required at the facility level, and plant personnel need to be engaged, trained and motivated to achieve our ambitious goals.

As part of this effort, the energy team developed an energy management toolbox which makes many tools available to employees and teams across the U.S., including: best practices developed by the energy experts within the company to address various utilities; a database of quick-win projects which can be replicated at other sites; and regularly scheduled opportunities for communication, training and information-sharing across the globe, via the yearly Americas Energy Roundtable and quarterly global webinars.

ArcelorMittal USA was selected as a 2018 winner of the DOE's "Better Practice Award" for this energy management toolbox, as it plays a key role in driving organizational and cultural changes to impact energy efficiency.

ArcelorMittal Cleveland was also recognized by the DOE in 2018. The facility attained the 50001 Ready designation for its management system and is the first integrated steelmaking facility in the country to receive this designation.

Rishabh Bahel, ArcelorMittal Cleveland's energy engineer, led the plant team through the 50001 Ready process: "Many of our automotive customers are ISO 50001 certified and have highly accomplished energy management programs in place. Getting this designation makes ArcelorMittal Cleveland more competitive in the marketplace. We are proud that our plant was the first ArcelorMittal facility to take on the challenge and be recognized as 50001 Ready."

The recognitions continued with ArcelorMittal Weirton, which was honored by the U.S. Environmental Protection Agency (EPA) for reducing its energy intensity by more than 12 percent since 2013 as part of the Energy Star® Challenge for Industry.

The ENERGY STAR® Challenge for Industry is the EPA's national call-to-action to improve the energy efficiency of America's manufacturers by 10 percent or more. ArcelorMittal Weirton exceeded that goal.

"ArcelorMittal Weirton has experienced a lot of change in recent years. As our plant has adapted to a changing marketplace, one of the positive changes has been a shift in our culture around energy efficiency. When we reduce our energy use, it positively impacts our environmental footprint and our financial bottom line," said Brian James, general manager, ArcelorMittal Weirton.

One of the main drivers of the Weirton plant's improvement was the installation of new package boilers in April 2015. Previously, the plant's manufacturing steam requirements were met using three large, antiquated, inefficient, and unreliable boilers.

By replacing the old boiler house with local package boilers at two internal plant locations, ArcelorMittal Weirton is now able to produce steam in much closer proximity to the processes where steam is used. Plus, the new equipment is more efficient and reliable, thus reducing the amount of steam produced, chemical energy use and maintenance spending.

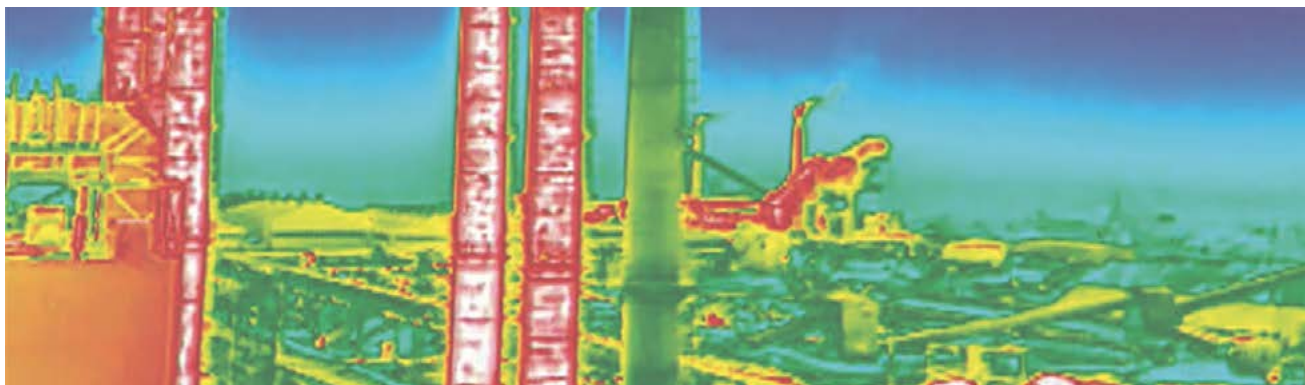
ArcelorMittal Weirton's efforts are not only worthy of the EPA's recognition, but they are also helping ArcelorMittal USA get closer to its commitment as part of the DOE's Better Plants Program.



## Case study 2



## Using drones for critical energy-related detections



Both ArcelorMittal Burns Harbor and ArcelorMittal Cleveland are utilizing cameras mounted on drones to inspect energy-related infrastructures. Over the past few years, the use of drones is becoming increasingly popular in the industry. Because it's an evolving technology, some people may not realize the benefits of using drones. Drones allow companies to reduce costs by decreasing time requirements while improving the quality and accuracy of the information gathered. They also make many jobs safer by reducing risks.

"Energy efficiency, conservation and reliability of energy assets continue to be a major focus and target for continuous improvement at ArcelorMittal," said Gabriel Monroy, manager, structural maintenance, MEU, ArcelorMittal Burns Harbor. "Drone technology helps us deploy inspection personnel in a much safer manner with greater ease and at a substantial reduction in cost when compared with traditional inspection methods."

Monroy noted that Burns Harbor has been using drone technology for three years. The facility invested in a drone with the capability of supporting an infrared (thermal imaging) camera, as well as a platform for an advanced 4k quality optical/digital camera. The team responsible for the operation of the drones relies on specialists of a particular area within the Burns Harbor facility to request the investigation for a certain asset and to provide relevant parameters related to its efficient operation.

"In particular, the team is monitoring various energy-related assets, including electrical and natural gas distribution network structures, as well as other gas-related assets, such as blast furnaces, stacks, louvers, generators, etc.," noted Monroy. "The team had identified leaks and potential sources of issues, most notably, the detection of a blast furnace gas leak that could be potentially hazardous."

The team uncovered other risks, too, including a compromised liner of acid storage tanks, compromised refractory material in stacks and other gas networks leaks.

At Cleveland, a drone is being used to inspect roofs, power lines and gas lines.

"We also have a portable weather station to monitor local atmospheric conditions at the flight location," said Henry Cuevas, senior project engineer, high energy and reliability, MEU, ArcelorMittal Cleveland.

Cleveland's power system has a vast grid covering 930 acres. It supplies power to each building. The electrical system includes both uninsulated wires and insulated cables. With their drone, Cleveland can verify the mechanical condition of the structures that sustain and protect the electrical power system.

Steel pipes transport natural gas and steam in the facility's energy system. Cuevas said that energy might be wasted if the physical characteristics, such as pressure or temperature, do not reach the final user as expected. That can affect efficiency and increase the operational cost.

Both Monroy and Cuevas agree that the benefits of using drones are invaluable. And while cost savings are important, there is one more critical and valuable benefit.

"The most valuable benefit of drone use is the human safety aspect — keeping employees from being exposed to a potentially dangerous situation like a fall from a roof or exposure to gases," noted Cuevas. "When you think about it in these terms, we cannot overstate the enormous benefits of drones used in our facilities."

## Case study 3



# Seeing the light: our energy-efficient lighting efforts



Why is updating the lighting in our facilities so important? Larry Fabina, manager of continuous improvement, ArcelorMittal Burns Harbor, offers several reasons.

"The first reason is safety. Proper lighting is essential not only for operations, but for the safety of our employees," said Fabina. "The old-style metal halide fixtures that were the mainstay for high bay have a life span of fewer than three years, along with high lumen depreciation in the first year. Many of our operations still have the metal fixtures, but we are trying to change these to LEDs when possible."

Another reason for adding new lighting is maintenance. With non-working or metal halide fixtures constantly failing, maintenance and cost become issues. LED lights last up to 10 years with little lumen depreciation while using less than half the energy of metal halide fixtures.

Finally, with improved lighting from LEDs, housekeeping and employee awareness can improve as well. Fabina added some LED manufacturers have fixtures designed specifically for steel operations that have a high ambient temperature rating along with a full 10-year warranty.

ArcelorMittal USA is pushing ahead with plans to replace outdated lighting with energy-efficient LED replacements.

A few years ago, ArcelorMittal asked lighting suppliers to remove inefficient fixtures and lamps from our online purchasing program, replacing them with energy-efficient fixtures. The only exception was high bay bulbs, due to the large quantity in our facilities and the high cost of LED replacements. However, departments are encouraged to replace high bay lighting when their repair and maintenance budgets allow.

How lighting affects cost will depend on the fixture and electric prices, but the simple payback is usually less than two years, not counting installation costs. Additionally, the return on investment can be even less, by adding smart technology controls like dimmers, motion sensors, daylight harvest and setting lighting schedules.

All ArcelorMittal USA facilities are currently either planning lighting projects or have efforts in progress, according to Fabina. At Burns Harbor, the shops complex is in the process of a project and the batch anneal was recently completed. The continuous heat treat line has plans for a project with test lights on order. Burns Harbor's newly revamped power house now features new LED lights.

At Cleveland's No. 2 steel producing slab yard, new LED lighting went up over a two-month period. The pre-job lighting included 716 fixtures with a light output of 7-9 fc. The post-lighting quantity was just 212 fixtures with a light output of 15-20 fc. Energy savings from this project alone are expected to be \$316,000 a year. The capital lighting project cost was \$416,000 with an estimated rebate of \$180,000.

"Safety is a major benefit, along with housekeeping," said Rishabh Bahel, energy engineer, MEU, ArcelorMittal Cleveland. "Having improved lighting also helps improve employee attitude."

While safety should be the initial driver for wanting to change lighting in a certain area, it's important that we do not over-light areas where extra light is not needed.

"An analysis is critical to assist in effectively planning a lighting project. And remember, a properly lit area provides a safer work area," added Bahel.

## Case study 1



# USA delivery initiative: what we're doing and why our customers care



For the past two years, ArcelorMittal USA has been planning and implementing a delivery initiative with a clear vision — to be the supplier of choice for our valued customers. In any given industry, a company's adherence to delivery dates is an essential factor that ultimately decides the success of the company. Simply put, on-time delivery is the ability of businesses to meet their customers' requirements and deliver the service or products to the customer when promised.

Recently, more than 100 ArcelorMittal USA employees with cross-functional responsibilities gathered to learn more about the new delivery initiative and to receive an update on our progress. The afternoon meeting included reports from individuals on delivery projects in their departments and thoughts from a customer on what it means to be a customer-centric company.

Len Lisjak, director, carbon flat-roll and plate for our customer Central Steel & Wire Company, emphasized the importance of a customer-centric culture. Lisjak said that when his company receives a late order, it means their customers don't receive their products when promised.

"We have confidence in your organization and, as a result, we expect performance. The reason we awarded you our business is because of your delivery performance and quality," added Lisjak. "The efforts you're putting in as an organization have allowed us to manage our inventory better and grow, so I wanted to thank everyone at ArcelorMittal for embracing that challenge to improve your performance."

Sheila Janin, general manager, product control, sales and marketing, ArcelorMittal USA, echoed the need to focus on being customer-centric.

"Our delivery initiative has taken a huge step forward by changing the way we look at our delivery from more of an internal view to an absolute customer-centric external view," said Janin. "To do that effectively, we've asked our customers how they judge us, and we've taken their feedback and incorporated those details into our metrics for them."

At the end of his remarks, Lisjak noted how he appreciated the invitation from ArcelorMittal to deliver his message of expectations from a customer's perspective. He noted he will provide feedback from the meeting to his company, Central Steel and Wire, which recently merged with Ryerson.

"I'm going to be proud to walk into my company and say I sat in a room with over 100 people who are 100 percent committed to making us a better organization. That commitment benefits everyone in our organization and our customers — the two most important reasons we are in business."



## Case study 2



# Relying on minority-owned suppliers for quality parts



Laura Bianchi Eikenmeyer is the owner of Refractory Service Corp, which is a key supplier of refractories to ArcelorMittal facilities. Laura, along with her brother Jeff, took over the family business in 1995 and now employ approximately 60 employees that supply precast shapes, tundish furniture, dams, baffles, deltas and more. The company is over 50 percent female-owned and received the Women-Owned Business Certification from the Women's Business Enterprise National Council (WBENC). Refractory Service Corp. is the only refractory supplier that is owned by women.

Laura's father started the company in 1979 while working as a bricklayer at ArcelorMittal predecessor company Inland Steel. One day, he received a complaint from a customer about a product they received from a supplier and he thought, "I can make that better." And he did. He continued to work at the steel mill while starting the refractory business out of his basement.

Laura never envisioned herself taking over the business. She graduated from St. Mary's of Notre Dame with a degree in English and communications. Right after, she got married and moved to California for her husband's job, where she attended Pepperdine University to receive her master's in communications. From there, she attended Loyola University of Chicago and received a doctorate in educational psychology. "I thought I wanted to be a professor of psychology. However, I realized I just liked working at the family company — it made me more comfortable." One of her favorite parts about work is the atmosphere, where everyone feels like extended family.

As unique as Laura's background is, she believed it prepared her for owning her own business in a male-dominated industry, "My educational experience helped prepare me to work in the steel industry with all men," Laura explained. "Everyone has been respectful and given me a chance. It's empowering."

Refractory Service Corp's partnership with ArcelorMittal dates past Laura's time. "My dad was doing business with ArcelorMittal for various plants. We have a very good relationship with ArcelorMittal and are appreciative they gave us chance since we are a smaller company. Our openness to try new things and to innovate together creates mutual value."

According to Cathy Wriston, plant buyer, ArcelorMittal Burns Harbor, supplier diversity is a strategic business proposition for ArcelorMittal and demonstrates our commitment to being a sustainable company. ArcelorMittal's customers are dependent on the reliability of our internal supply chain to ensure they can meet their sustainability goals. "Having a diversity program allows ArcelorMittal to provide an opportunity for minority, women and veteran-owned businesses to participate in the company's procurement process," she added.

## Case study 1



# ArcelorMittal continues to 'build resilience' in community partners



At ArcelorMittal, we aim to meet the expectations of our stakeholders while simultaneously anticipating future local and global challenges. The benefits of this approach are clear – we attract and retain the best employees, our communities embrace our presence, and our customers consider us their supplier of choice. And as a result, we thrive.

Annually we invest \$6.9 million in grants and matching donations. Our investments have been made through strategic partnerships with nonprofit organizations working in the areas of STEM education, the environment, and health and safety.

In December 2017, we launched “Building Resilience: Investing in Nonprofit Sustainability,” a grant initiative available to our nonprofit partners to support projects traditionally underfunded by foundations and corporations. These projects, which are designed to have a significant impact on the long-term sustainability of the organization, include: strategic planning; professional development; sustainability planning; diversity and inclusion training; technology implementation and data management; and fundraising enhancement or expansions.

The need for this type of financial support is critical. In the first two years of the program, we received a total of 121 funding requests. For the first round announced in December 2017, we provided \$318,500 in funding to a cohort of 14 organizations. In December 2018, we selected the second cohort of 14 nonprofit organizations which received a total of \$325,000.

The first cohort's results were astounding. The organizations reported that the funding catalyzed critical capacity building work that they might not have otherwise prioritized.

For example, the Boys and Girls Club of Greater Cleveland used their investment to purchase an improved database management system. This provides the organization with a more streamlined online giving platform and prospect research tool and a digital communication tool to enhance their capacity to connect with more donors, more frequently. Results included the identification and mapping of major donors, a doubled open rate of their fundraising emails, and a dramatic increase in donations.

“With our former donation platform, we processed 2,774 transactions in a 10-year period. In just nine months following implementation of our new system, we processed 1,420 transactions and experienced a 50 percent donation increase in our annual ‘Race for Kids’ campaign,” Robert Koonce, chief development officer said.

Earl Pike, the executive director of University Settlement, was thrilled to receive funding to conduct a feasibility study for a new building. “ArcelorMittal goes far beyond the granting of the check. It’s not just a unilateral partnership, they provide strategic resources, they provide capacity building resources and they get their people involved,” he shared.

We look forward to more successes from the second cohort, as they are already making great progress on their projects. ArcelorMittal is proud to play an important role in strengthening our communities through the Building Resilience program. The response, and even more importantly, the outcomes, are strong indicators that this type of investment is meaningful.

## Case study 2



# Shining a spotlight on our community investment efforts



ArcelorMittal was recognized for our community investment efforts in our two largest communities on National Philanthropy Day 2018. We were honored as “Company of the Year” by the Association of Fundraising Professionals’ Indiana-Northwest Chapter and “Corporate Leader of the Year” by the organization’s Greater Cleveland chapter.

The awards celebrate our local facilities — Burns Harbor, Indiana Harbor, and Global Research and Development in Northwest Indiana and our Cleveland plant in Ohio — for demonstrating outstanding commitment to community through philanthropic support, employee involvement and community leadership.

“It is important for ArcelorMittal to be an active and welcomed member of the communities where we operate. These awards are a direct validation from our partners that the community engagement work our teams are doing on the ground in Northwest Indiana and Cleveland is making a difference. Working together, both our business and our communities can be stronger and more resilient,” said Bill Steers, general manager, communications and corporate responsibility for ArcelorMittal Americas.

At the heart of these awards are the many nonprofit partnerships ArcelorMittal enjoys, such as the partnership with Dunes Learning Center in Northwest Indiana. The company’s engagement with Dunes Learning Center began in 1998 and has grown far beyond financial support.

“It’s unique because we have an ArcelorMittal employee who sits on our board and many of their employees volunteer and attend our events,” said Geof Benson, executive director, Dunes Learning Center. “And when ArcelorMittal restored land within their boundaries, we began taking students to

do hands-on stewardship. This gives them a chance to see how nature and industry co-exist, and they see the facilities up close and personal. Steelmaking is our heritage and it’s important to make the connection.”

In Cleveland, two longtime nonprofit partners, Greater Cleveland College Now and University Settlement, spoke on behalf of ArcelorMittal to the award committee.

“Although ArcelorMittal is an international company and the largest steel producer in the world, it has a laser focus on the communities in which its facilities are based,” Kittie Warshawsky of College Now explained. “ArcelorMittal’s support has impacted our Mentoring Program, which utilizes volunteer mentors — including several ArcelorMittal engineers — to support low-income students to explore possible STEM majors and career tracks.”

Co-nominator University Settlement operates a community center just a half mile away from the Cleveland plant. With ArcelorMittal’s support, University Settlement has enhanced its afterschool youth program to include STEM learning experiences. ArcelorMittal volunteers are spotted regularly at University Settlement.

All three of these nonprofits also received special capacity building support through ArcelorMittal’s Building Resilience initiative. According to Warshawsky, “‘Building Resilience’ gave nonprofits, like College Now, the unique opportunity to ask for capacity building dollars that would help us sustain and grow our missions over time. Funding opportunities for capacity building and sustainability are critical, and as fundraisers know all so well, very rare.”



## Case study 3



# Empowering females through STEM education



As the steel industry continues to evolve, the skills necessary to create quality steel products are more advanced, and the need for innovation is more critical than ever before. As a result, over 40 percent of our annual community investment budget supports STEM in the United States. Funding STEM organizations in our community, especially initiatives that empower the next generation of female scientists and engineers, is crucial to developing a pipeline of diverse talent.

One organization ArcelorMittal supports is the Science Olympiad team at Thomas Jefferson Middle School (TJMS) in Valparaiso, Indiana. Science Olympiad is a national nonprofit focusing on increasing the quality and participation of students in STEM education through tournaments and non-competitive events. They've made a special effort to engage female and minority students, groups which are underrepresented in STEM.

More than 7,500 Science Olympiad teams competed in 2018 and TJMS ranked first in the state and 17th at the national competition. The school has a history of winning — teams have earned a spot at the national competition 29 years in a row.

While only 24 percent of the STEM workforce is made up of women, Science Olympiad encourages girls to participate. On some teams, 50 percent of competitors are girls.

ArcelorMittal Indiana Harbor intern and TJMS team alumna, Abby Mitchell, said Science Olympiad was beneficial in her life. "I had never used tools before I was on the team. It was a great experience. It built my confidence. Being a female in engineering is empowering."

By societal standards, a woman working as an engineer in a steel mill is nontraditional.

"I've been lucky to have a woman as a mentor during my internship at the 80" hot strip mill," said Abby. "She's the first female engineer I've met who has a full-time career and a family. So, I think that one day I can have all that, too."

Another STEM organization ArcelorMittal supports is the Girl Scouts of Greater Chicago and Northwest Indiana through their initiative, GirlSpace STE(A)M. This is a year-round after school program that engages K-8 students with STEM-related activities that have real-world applications and are related to specific careers. Students have the chance to learn about a wide-range of STEM careers such as being a dietitian, veterinarian, electrician and more.

The Girl Scouts believe sparking girls' interest in STEM while they are young may make them more likely to choose a STEM career in the future.

"Research shows that girls who are interested in STEM have well-developed internal assets, such as a high level of confidence in their abilities, and the ability to overcome obstacles," said Vicki King, vice president of GirlSpace, outdoor programs and property, retail and customer care. "ArcelorMittal has been a valued partner of Girl Scouts of Greater Chicago and Northwest Indiana for several years. They intrinsically know the value of introducing girls to the wonders — and practicality — of science, technology, engineering and math. Through ArcelorMittal's continuing generosity over the years, we believe Girl Scouts has been able to impact close to 5,000 girls in at-risk communities in Northwest Indiana; areas that do not usually get that focus and attention."

## Case study 1



# Sophie Ydstie: the importance of female engineers in the workforce



Part of recruiting and retaining the best and brightest talent is having a diverse workforce. Although engineering is a male-dominated field, this doesn't intimidate Sophie Ydstie, a quality assurance metallurgical engineer for the cold mill at ArcelorMittal Indiana Harbor. Her main responsibilities include inspecting steel for defects that could impact customers or our downstream operations.

Growing up in Pittsburgh, Sophie always had an interest in engineering. She looked up to her father who was a chemical engineering professor. Unlike many young girls her age, Sophie was playing with LEGOs®, taking things apart and enjoying math and science.

She went on to attend Purdue University and majored in material science engineering. She noticed that only around 25 percent of the students in her classes were females, but Sophie conducted her undergraduate research with a female engineering professor whom she admired.

After an ArcelorMittal representative came to speak at her college seminar, Sophie decided to apply for a job. "Seeing the large scale of ArcelorMittal, I thought there would be good opportunities."

Nearly four years later, Sophie has been presented with great opportunities to bring a different perspective to her team and to renew her involvement with the Society of Women Engineers (SWE).

Originally starting in the hot mill, she noticed her colleagues were mostly men. "I was really intimidated being the only girl in the room reporting out numbers to 20 men who were all older than me. I tried to give a good impression for

being a younger female, fresh out of college in a historically male-dominated industry." As she has moved through other departments, including the cold mill where she now works, she has been exposed to more female colleagues.

Sophie sees being a female in a male-dominated industry as a benefit more than a challenge, "The way women think can be different than men and we also bring a new perspective."

Another benefit of being a woman in STEM is the opportunity to become involved in SWE. In college, Sophie participated in a mentoring program through SWE but ceased involvement until she attended the 2018 conference in Minnesota with ArcelorMittal. "It was amazing. It was interesting to talk to female students about their future. It was also great to talk to established women about how they overcame any challenges in their careers, family life, having kids and how they balanced everything!" Connecting with other women through SWE reinforced the important role females play in the engineering world.

As for the future of females in engineering, Sophie can only hope it won't always be a topic of conversation because it will be commonplace.

## Case study 2



# Virtual reality: using the latest technology to engage our current and future employees



Preparing our scientists and engineers for tomorrow is crucial for the future of our company and the industry. One of the best ways to do so is to incorporate and implement the latest technology, such as virtual reality (VR). Currently, ArcelorMittal is using VR to not only recruit the talented workforce of the future, but also to train our current employees in an engaging manner.

At the Burns Harbor Deerfield Woods Training Center, employees are experiencing fire extinguishing training through this dynamic medium. Working in tandem with Purdue University Northwest's Center for Innovation through Visualization and Simulation (CIVIS), ArcelorMittal was able to develop the technology.

"We met several times with Purdue to incorporate all of the little nuances for someone to put out a fire," explained Angela Hiller, manager of the Deerfield Training Center. "We were able to incorporate a 360-degree view of our finishing department, so now when you are sitting in the chair with the headset on it is a real environment, not a made-up cartoon."

As Occupation Safety and Health Administration (OSHA) requires many safety trainings that are often stagnant and repetitive, introducing the VR system created an interactive component that will also be more memorable. "We feel that people learn by doing as opposed to just a PowerPoint or a lecture. The VR experience will stick with you," added Hiller.

Burns Harbor currently has four VR stations, where steelworkers from ages 18-74 have extinguished fires from the comfort of a secure room. Allowing employees to train in a safe environment, while practicing unsafe acts, is

revolutionary and will enable us to be better equipped for the future. "We can simulate a fire without putting people in danger. It calms them so that they can take what they've learned and apply it in real life."

Employees are already looking forward to the next innovative safety training. Discussions to create trainings in fall protection, mobile equipment inspections and more have been brought to the table.

Not only is virtual reality a great tool for our workforce, but it's also supporting our efforts to recruit a talented pipeline of scientists and engineers. In the fall of 2018, the recruiting team introduced the technology at career fairs and used it at the Society of Women Engineers conference as well as Missouri S&T's "Steel Day."

"We are constantly trying to meet and bring students into the steel industry," said Jennifer McCloud, talent and acquisition and development representative. "It is fun and exciting to allow them to see something that they wouldn't be able to experience all the time. We have been the only company that has had virtual reality at these events, so it sets us apart."

In addition to targeting college students, ArcelorMittal is introducing VR to an even younger audience such as middle and high school students. As they are too young to tour the mill, this technology is another way to solidify their interest in STEM and ArcelorMittal.



## Case study 1



# Opening our doors to share our value



We pride ourselves on our significant social and financial contributions and strive to demonstrate them to our key stakeholders. As part of this effort, we bring our stakeholders inside our operations and local communities. Whether we open our doors to local and national news crews or invite students on mill tours, we prioritize transparency in order to communicate our value broadly.

When Cleveland's FOX TV affiliate, Fox 8, asked if they could give their viewers a behind-the-scenes look at the local steel industry, the Cleveland plant couldn't pass up the opportunity to celebrate our people, our products and our many contributions to the local community.

Popular Fox 8 Morning Show anchor Stefani Schaefer put on her hard hat and steel-toed boots and broadcast live from the hot strip mill. The ArcelorMittal Cleveland and USW Local 979 teams welcomed Schaefer with open arms, and over the course of five live segments, she took the audience on a rarely seen journey showcasing how we make steel for our automotive, appliance, construction and food packaging customers.

Reflecting on the day to her tens of thousands of social media fans, Schaefer posted, "THANK YOU FOR TODAY... a Cleveland Television First... going LIVE all morning from a thousand-acre, 2,350 degree steel melting and making plant!!!! AND THANK YOU TO MY DEAR FRIENDS AT ARCELORMITTAL CLEVELAND STEEL MILL for the amazing welcome and fabulous day! I really didn't want to leave! I fell in love with all of you...and what you do! Your contributions to our city are endless!"

In January 2018, we also welcomed CNBC's Kate Rogers to our Burns Harbor facility where she reported to the nation on the state of manufacturing jobs and other critical industry topics.

Our doors are open to other stakeholders too, such as a group of educators from the School City of Hammond who toured our Global Research and Development center in East Chicago, Indiana. Stops included the miniature hot strip mill, dent tester lab, formability lab and our S-in-Motion® display.

These 20 teachers from the middle and high schools were selected because they work with several of our nonprofit STEM partners, including the Challenger Learning Center, Project Lead the Way and Science Olympiad. They were able to see firsthand the types of careers we offer, from entry-level basic labor positions to maintenance technicians, engineers and scientists.

Through stakeholder visits like these, we are able to communicate about our company in an open and honest manner, and we can clearly demonstrate our value to the community.

## Case study 2



# Welcoming government officials to engage in meaningful conversation



At ArcelorMittal, we are pleased to welcome members of Congress to our plants to see our operations and discuss pressing topics. U.S. Senator Todd Young (R-Ind.) visited ArcelorMittal Burns Harbor to learn more about the needs of our industry, particularly as it relates to education and job training.

The request to visit initially came from Young's office, and ArcelorMittal was grateful for the opportunity as workforce issues are relevant across our business. According to Tom Dower, senior director, government relations for ArcelorMittal Americas, "ArcelorMittal needs skilled people that continue to come to work on-time with the particular skillsets that modern manufacturing requires, so it is a topic we discuss a lot."

During his visit, Sen. Young toured the operations, met with company leadership and visited the Deerfield Woods Training Center to ask employees about their educational opportunities with ArcelorMittal. Additionally, three Steelworker for the Future® participants met with the Senator to discuss this workforce development program.

Facility visits from government officials are very important to us from both a business and government relations standpoint because they create a lasting experience. "If we can host government officials at our plants for them to see our various operations and the scope, it is very memorable. Then, when we go and speak to them at a later point, they can contextualize what we are saying. It is much more tangible," explained Dower.

When elected officials visit our plants, it presents an opportunity for face-to-face engagement with our plant managers and other employees who would not have the chance to go to Washington D.C. "A tour is great way to put the legislator in our home turf so they can hear about the real day-to-day things that keep us up at night or energize us," Dower remarked. "Nothing is better than a plant tour."

The plant visit came at a good time as Sen. Young has been appointed to the Senate finance committee, the most important committee for trade and tax policy. He is also the chairman of the National Republican Senatorial Committee (NRSC) and oversees the political Republican strategy for the 2020 election. Therefore, having an ally leading this initiative can help us insert issues relating to our business into the national debate for the 2020 election.

"Now I feel like we have a personal and professional relationship with Sen. Young," added Dower.

## Who is responsible for protecting human rights?



*This blog was authored by Shannon Masson, assistant general counsel and compliance officer for ArcelorMittal USA. It was published in the "Raw Material" section of the USA website in September 2018.*

"Where, after all, do universal human rights begin? In small places, close to home – so close and so small that they cannot be seen on any maps of the world... Unless these rights have meaning there, they have little meaning anywhere. Without concerned citizen action to uphold them close to home, we shall look in vain for progress in the larger world." – Eleanor Roosevelt

The right to be considered innocent until proven guilty. The right to participate in government and free elections. Freedom from slavery. Freedom of belief and religion. Most Americans would recognize these as fundamental human rights upon which our system of government is based. What you may not know, however, is that these are just some of the 30 basic human rights that make up the United Nations' Universal Declaration of Human Rights, which, according to the Guinness Book of World Records, is the most translated document in the world. The UN Declaration of Human Rights, along with other documents like the International Labor Organisation's Declaration of Fundamental Principles and Rights at Work and the UN Global Compact are several universally accepted declarations upon which many companies base their human rights policies.

For a global company, like ArcelorMittal for instance, it makes sense to have a human rights policy. We have operations in more than 60 countries around the world and have pursued greenfield projects in developing countries where indigenous people may not enjoy the same rights as we do here in the United States.

All of the above is true. But, sadly, as Eleanor Roosevelt recognized, it is not just in developing countries where people suffer human rights abuses. It happens right here, in our backyard. For example, while there is no study or database that tracks all reports of human trafficking in the United States, the National Human Trafficking Hotline has identified nearly 90,000 victims from calls coming into the center in its first ten years of operation, with reports increasing each year. In the US, Chicago (home to our Americas headquarters) is considered a hub for trafficking and studies indicate that in the Chicago metropolitan area 16,000 to 25,000 women and girls are involved in the commercial sex trade annually.

In the last number of years, perhaps starting with the UN's publication in 2011 of the "Guiding Principles on Business and Human Rights" there has been a movement within corporate America and around the world, for companies to assume a responsibility to avoid human rights abuses by their own actions and the actions of third-parties with whom they work. Companies recognize that corporate citizenship is good for business, and companies can operationalize their responsibility for human rights in many ways that have a real and lasting impact on society.

*Continued on next page*



## Case study: Who is responsible for protecting human rights?



The duty to promote respect for human rights within the private sector cuts across all industries and within all departments of a company. For a clothing or textiles company, human rights risks may be highest within the supply chain for forced or child labor. For an internet company, human rights risks may be most significant for bloggers seen as politically threatening by the host government. Within companies, human rights are relevant for many different departments. Human resources focuses on maintaining a work environment that reflects respect for human rights and is free from all discrimination and harassment. Procurement focuses on labor conditions and respect for human rights within the supply chain. Government relations and sales concentrate on ensuring the company does not gain a competitive advantage through any public or private bribery or corruption.

The companies we work for are legally required to pay attention to human rights, to ensuring their workers can do their jobs in a healthy environment. It is the right thing to do. But it isn't just the companies who must observe human rights. That obligation rests with each of us. All of us can, and should, understand the context in which human rights abuses take place – globally, regionally and locally – and take whatever small actions we can, at home and at work, to make progress toward the changed world that Eleanor Roosevelt envisioned.