



Steelie Awards
2020

Introduction

The Steelie Awards recognise World Steel Association (worldsteel) member companies or individuals for their contribution to the steel industry over a one-year period. The selection process for nominations varies between awards. In most cases, nominations are requested through the appropriate membership committee and the worldsteel extranet. Entries are then judged by selected expert panels using agreed performance criteria. The winners of the 2020 Steelie Awards will be announced across social media channels on Wednesday 14 October 2020.



Nominations overview

Excellence in digital communications

JSW Steel Limited
Metinvest Holding LLC
POSCO
Tata Steel Limited
Ternium

Innovation of the year

Big River Steel Development of Ultra High Strength (>100ksi yield) hot rolled steel up to 10mm thickness through a mini CSP mill with outstanding toughness
JFE Steel Corporation Development of resource saving type Si gradient steel sheet for high-speed motors
JFE Steel Corporation Extra-thick high arrest steel plate for ultra large container ships contributing to maritime logistics revolution (ARRESTEX)
POSCO Manufacturing technology of high Mn steels for cryogenic LNG transportation; production, commercialisation and certification
Severstal (PAO) The digitalisation of steelmaking

Excellence in sustainability

Gerdau S.A. Gerdau Sustainable House
JFE Steel Corporation Limited JFE Steel's contribution to improve marine environments using steel slag products
Novolipetsk Steel (NLMK Group) Processing of a 5 Mt metallurgical slag dump and reclamation of the adjacent territory
POSCO Triton Sea Forestation Project
Ternium Natural gas replacement by the use of biomethane from a landfill at stationary combustion sources
Usinas Siderúrgicas de Minas Gerais S.A. (USIMINAS) Diversity and Inclusion Programme

Nominations overview

Excellence in Life Cycle Assessment

China Baowu Steel Group Corporation Limited Use of LCA on carbon trading market policy making

HYUNDAI Steel Company Use of LCA to support Integrated Management System development

JSW Steel Limited Use of LCA in new product development

Tata Steel Europe Use of LCA to evaluate technologies for reduced greenhouse gas emission steelmaking

Tata Steel Limited Use of LCA to assess new steel solutions in the construction sector

Excellence in education and training

EVRAZ Top 300/Top 1,000

JSW Steel Limited Virtual Academy

Tata Steel Limited Digie-Shala (Capability Development)

Ternium Ternium University

TMK (PAO) TMK2U E-Learning Developers School

Journalist of the year

Hongmei Li Head of Editorial, Mysteel Global

Colin Richardson, Editor, Argus Media

Annalisa Villa Team Leader News, EMEA, S&P Global Platts

Excellence in communications programmes

JSW Steel Limited Roof to Dream

Tata Steel Limited Celebration of 100 years of India's first planned industrial township

Tenaris Tenaris communications response to COVID-19

Ternium Ternium communications response to COVID-19

Ternium The soul of Mexico

Excellence in digital communications



JSW Steel Limited

Metinvest Holding LLC

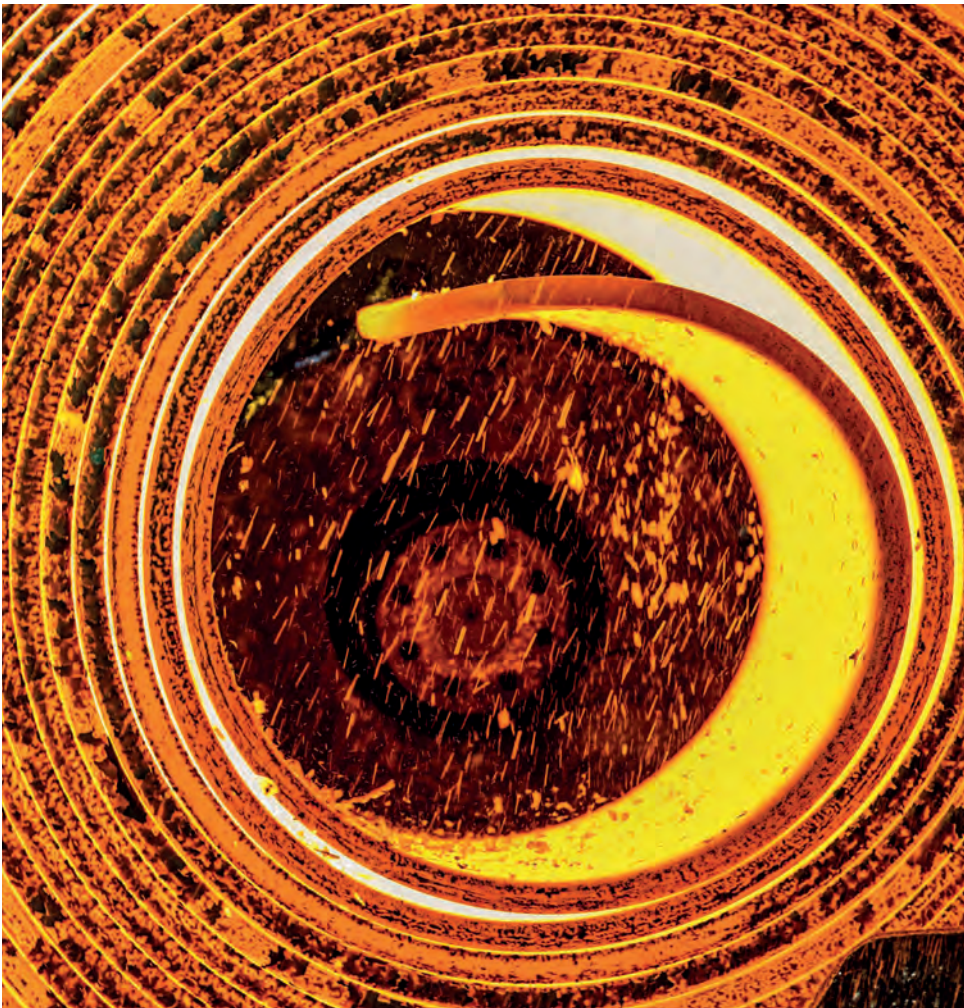
POSCO

Tata Steel Limited

Ternium

Innovation of the year

Big River Steel



Development of Ultra High Strength (>100ksi yield) hot rolled steel up to 10mm thickness through a mini CSP mill with outstanding toughness

Big River Steel at Osceola, AR, USA is the first CSP mill in the United States to integrate steelmaking and refining technology with an RH degasser to widen the capabilities of steel production from ultra-low carbon automotive grades to electrical to critical AHSS/UHSS grades. It is the first CSP mill in the world to be LEED certified for Energy and Environment Design by the US Green Building Council and possibly the lowest in CO₂ emissions standard per tonne of steel made (<0.10t/tonne of steel as per EPA report).

Taking advantage of a unique line up of EAF-LMF-RH-CSP (flexible in width and thickness) technology, many innovative ideas in alloy and process designs were made in just a couple of years. This steel product development stands out as the pinnacle of innovation in product development that will stand out in the landscape of mini CSP mills for product and process ingenuity and outreach.

A very low C-Mn-Ti-Nb microalloyed steel chemistry (CEIIW~0.32) and easily adaptable hot rolling processing were designed based on fundamentals of physical metallurgy of strengthening to produce hot rolled strips of up to 8mm thickness with yield strength of 100ksi and above. The steel manifested outstanding impact toughness of 30ft-lbs and above at -40°C combined with severe bend formability at 1.6t inner radius cold bend. The steel was commercially produced and sold to customers for roll formed structural applications.

The microstructure indicated very fine ferrite grains of 2.5-4.5µm with significant microalloy precipitation strengthening, enabling outstanding low temperature toughness as well as yield strength.

Such high strength, high toughness hot strip development is by far beyond the designed capabilities of a mini CSP mill and perhaps sets a benchmark for the power of advanced CSP technology,

More than 500 tonnes of these steels have been made in a short span of time and commercially sold.

Market promotions ongoing.

Innovation of the year

JFE Steel Corporation



Development of resource saving type Si gradient steel sheet for high-speed motors

Electric motors consume 40% of the world's electric power. Improving the efficiency of all electric motors by 1% would have an energy-saving effect equivalent to 20 nuclear power plants of the 500 MW class.

Electrical steel is used in the iron cores of motors. From the viewpoints of high efficiency and motor size reduction, low iron loss and high saturation magnetisation are essential. To reduce core loss, a maximum of approximately 3% Si is generally added to electrical steel, but JFE Steel developed a 6.5% Si steel by a gas-phase siliconising process utilising chemical vapour deposition. Although this material shows extremely low iron loss, application to motors was difficult due to forming problems, as it is a brittle material, and its saturation magnetisation is also low.

To overcome these problems, JFE steel has developed a technology which reduces core loss with an Si content of less than 6.5% and a new product "resource saving type Si gradient steel sheet", which has an Si content of 6.5% at surface layer and low Si content at the centre of the sheet. This material shows low iron loss, high saturation magnetisation and excellent formability by optimising the Si concentration gradient in the sheet thickness direction. It is also effective for resource saving due to the low Si content at the centre compared to the uniform 6.5% Si steel.

A 4% improvement in motor efficiency and 40% reduction in motor weight were achieved by applying this material to compact high-speed motors. Si gradient steel sheet was adopted in the main motor of cordless vacuum cleaners, contributing to vacuum cleaner size reduction and a longer operating time between charges.

Because less siliconising is necessary in the developed product than in the 6.5% Si steel, it was also possible to improve production efficiency and reduce environmental loads and energy and resource consumption in the siliconising process.

Innovation of the year

JFE Steel Corporation



Extra-thick high arrest steel plate for ultra large container ships contributing to maritime logistics revolution (ARRESTEX)

JFE Steel has developed an extra-thick steel plate to suppress brittle crack propagation for ultra large container ships, named ARRESTEX. ARRESTEX is currently in mass production in JFE's West Japan works, as per the new international regulations of the International Association of Classification Societies (IACS, W31 Rev2,) revised in December 2019.

As a container ship has a large opening at the top of the hull to load containers from the upper part, it is necessary to secure the hull rigidity against the movement of the waves and apply heavy, thick (up to 100mm) high-strength steel plates to the hull structural members. In such steels there is a risk of brittle fracture, which can cause catastrophic damage. Mitigating brittle crack propagation stopping performance is known as "arrestability." Up until recently, there was no technology that combined both extreme thickness and high arrestability.

To counter this, the world's first breakthrough microstructural control technology that combines development of texture through the plate thickness in TMCP (thermo-mechanical controlled processing) was developed. It has been found that the arrestability can be greatly improved by aligning crystal texture in appropriate directions of the extra-thick plate. As a result of the development, in 2019 JFE Steel managed to significantly improve the arrestability. The commercialisation of ARRESTEX is expected to continue to contribute to the growth of global logistics and the reduction of environmental impact through improvement in fuel efficiency. It is set to become as an essential technology for the production of the ultra large container ships.

Innovation of the year

POSCO



Manufacturing technology of high Mn steels for cryogenic LNG transportation; production, commercialisation and certification

POSCO successfully commercialised a new fully austenitic cryogenic steel with high amounts of manganese at low manufacturing cost and with excellent toughness at extremely low temperatures for the first time in the steel industry's history.

High manganese steel is fully austenite steel at -196°C , and has an excellent combination of uniform elongation and strength. The POSCO Liquid Manganese (LM) process, a low-cost mass production process is made up of two main components 1) the manufacturing of high purity FeMn and 2) the FeMn holding and mixing process.

Using the LM process, the productivity of high Mn steel has been greatly improved. The continuous casting rate was increased, and the manufacturing cost was reduced due to an increase in the yield rate of alloy and molten steel. The commercial production of cryogenic steel has been in operation since January 2017.

Adopting the POSCO LM process can cut emissions and reduce environmental impact:

- Global warming potential (kg CO₂ eq.): A reduction of approximately 5%
- Acidification potential (kg SO₂ eq.): A 62% reduction
- Solid waste (tonne): A 53% reduction
- Total electric power consumption (kWh): A 23% reduction

Innovation of the year

Severstal (PAO)



The digitalisation of steelmaking

As part of this project, various tools and programmes have been developed that help to influence all the spectrum of CO₂ impacts. This includes increasing the yield of usable material (reducing the consumption of metal charge), reducing the consumption of primary ore materials, reducing the consumption of natural gas and electricity. The programme includes:

- Optimiser planning
- Model calculation of the optimal charge
- Model for controlling the fill height
- Model for optimising the consumption of ferroalloys
- Reducing the consumption of ferroalloys for steel alloying
- Automatic control system
- System for fixing the presence of a protective pipe
- System dashboards

Excellence in sustainability

Gerdau S.A.



Gerdau Sustainable House

In October 2019, Gerdau launched the Sustainable House project in Brazil, where the company's main operations are located, and where 7 million new homes are estimated to be needed to house people in precarious situations.

The project aims to build houses using recycled materials and sustainable technologies. A 45 m² pilot house was built with around 20 tonnes of iron ore tailings and mining co-products, and used sustainable technologies, such as solar and wind power generation, biodigesters (which reuse waste to produce gas and fertiliser), composting tanks, rainwater storage systems and water recycling.

The Engineering Department of the Federal University of Minas Gerais (UFMGa) developed a pioneering technology (called flash calcination) in partnership with Gerdau to make:

- construction blocks that contain 40% tailings from iron ore mining, which give the home thermal and acoustic comfort
- permeable flooring with 60% tailings, which is designed to reduce soil impermeability, helping to reduce impacts from flooding
- mortar with 60% tailings
- the material was also used to make the countertops in the kitchen and service area

Unprecedented in Brazil, the procedure enables the calcination of microparticles, which can be carried out in conventional ovens. This makes it possible to transform some mineral compounds from raw materials, such as rock waste and tailings, into high-strength ligands.

The Sustainable House shows that investments and technology can transform one of the industry's biggest challenges into new opportunities for companies, society and the environment. It is a powerful example of developing new applications that are sustainable as well as value-added for mining waste and tailings. As a result, the disposal of these materials in dams and piles is reduced, while reducing the use of natural resources.

Excellence in sustainability

JFE Steel Corporation



JFE Steel's contribution to improve marine environments using steel slag products

JFE Steel has developed marine products using slag, a co-product of steel production to protect or restore coastal ecosystems and thereby make local communities more resilient. These innovative and sustainable products are hydrated steel slag (Frontier Rock™ and Frontier Stone™), carbonated steel slag (Marine Block™), and steel slag with adjusted particle sizes (Marine Stone™).

The products were used to develop artificial reefs in Yokohama, create an artificial shoal in Seto Inland Sea, install a base for transplanted corals in Okinawa Prefecture, and install seabed in Fukuyama port.

The use of these recycled materials has had significant positive impacts on the marine ecosystem as well as bringing tangible benefits to the local communities.

A five-year monitoring study demonstrated that the number of species in Yokohama port area, where steel slag artificial reefs have been installed, has increased from 4 to 38 species due to a cleaner marine environment. More than 4 million citizens in Yokohama and Fukuyama have indirectly benefitted from the improved marine water quality.

The 36,000 m² of artificial shoal in Yamaguchi Prefecture helped to increase the amount of seaweed and the number of fish catches by 2-3 times compared to pre-construction. The annual total carbon capture by the seaweed from the installed shoal was estimated to be 4,658kg CO₂.

It was also confirmed that corals are growing and spawning robustly in the seas around Okinawa Prefecture's Miyakojima island, where the company's Marine Block was used to create a base to regenerate coral.

The 67,500 m² of the seabed created by 39,000 tonnes of Marine Stone has effectively reduced generation of hydrogen sulphide and improved the habitat for bottom dwelling organisms, resulting in improved water quality and eliminated odours in the enclosed sea in Fukuyama port.

Excellence in sustainability

Novolipetsk Steel (NLMK group)



Processing of a 5 Mt metallurgical slag dump and reclamation of the adjacent territory

Since the 1970s, a slag dump has been accumulating near the steelmaking plant on the left bank of the Voronezh River. At that time, blast furnace slag was simply poured onto the ground at a dedicated site away from residential buildings and was gradually processed for road construction application. Sometimes in the process of slag pouring, even multi-tonne slag pots were dropped into the dump. Solid waste from all production shops was dumped there on a regular basis.

The decision to recycle the dump at NLMK was made in 2018, and since February 2019, about 500,000 tonnes of materials have been processed from the dump every month. In July 2020 the slag dump was completely recycled and reclaimed.

The project was primarily aimed at the recycling of waste accumulated at the slag dump. The dump, covering an area of 25 hectares, had almost 6 million tonnes of accumulated waste.

Almost 350,000 tonnes of scrap were recovered as a result of processing of the accumulated 5 Mt of slag dump. The recovered metal was used to replace other iron-containing raw materials in blast furnace operations, thus reducing the consumption of iron ore.

Waste materials obtained through magnetic separation were also put to use. The materials remaining after the recovery of iron were utilised for construction projects at the site of the plant and in the city of Lipetsk, where the plant is located.

The economic impact of the project was estimated at RUB 1,677 million (EBITDA), about USD 21.4 million. The environmental benefits include avoided indirect CO₂ emissions to reclamation and landscaping of the adjacent territory. The project has improved the living environment of the residents in Lipetsk, Russia, and has also created new jobs at the production site.

Excellence in sustainability

POSCO



Triton Sea Forestation Project

POSCO, together with its research arm, the Research Institute of Industrial Science & Technology (RIST), have developed a steel slag-based artificial reef, called Triton®, and has been creating more than 30 sea forests covering a total of 37.8 hectares in coastal regions of South Korea. Since 2007, a total of 7,554 Triton reefs and 29,378 Triton blocks have been used to transform damaged coastal areas into sea forests with abundant marine algae.

Triton®, the artificial reef, is made of 85% slag aggregates, 15% slag cement, as well as water and admixture. The slag is a co-product of steelmaking. The mineral content of the slag, which is mainly calcium and iron, is higher than that of general aggregates and thus is effective in promoting the growth and photosynthesis of marine algae.

The Triton sea forest sequesters and stores significant amounts of carbon from the atmosphere and ocean. This is known as 'blue carbon' capture, which refers to carbon captured and stored by the oceans and coastal ecosystems. Research shows that 1 hectare of the Triton® sea forest captures 15.7 - 16.6 tonnes of CO₂ each year. The accumulated area of the Triton sea forests created so far is about 37.8 hectares. This indicates that the yearly amount of CO₂ uptake by the Triton sea forests is more than 600 tonnes.

The increased number of algae species and algae biomass from the Triton® sea forest has also increased marine organisms and therefore increased fish catch in the areas. The total economic value of the Triton® sea forests created so far has been estimated at US \$1,080,815 per year for the local communities.

POSCO provides steel slag free of charge to a local reef manufacturer, who then produces strong and stable artificial reefs at a reasonable price. As a result, POSCO can process an average of 13,500 tonnes of steel slag every year, saving about US \$1,710,000.

Lastly, in 2014 POSCO transferred the production technology of Triton® reefs to a local reef manufacturer. The company has grown in size and hired more people to run the business, contributing to developing a vital local community.

POSCO's extensive effort to communicate the use of the Triton® reefs and their positive impact on the marine life and local communities via their social media network has also helped to improve the public perception of steel slag and the steel industry.

Excellence in sustainability

Ternium



Natural gas replacement by the use of biomethane from a landfill at stationary combustion sources

Ternium Brazil started to introduce biomethane, a biofuel from landfill gas, by replacing fossil natural gas in its stationary combustion sources in its iron and steel production processes. The Brazil site is an integrated production route, the most energy and carbon intensive route for the steel sector.

Biogas is generated at the Seropédica landfill, the largest in Latin America, which serves around 10 million people and receives 10,000 tonnes of solid urban waste daily from Rio de Janeiro and other neighbouring municipalities. This landfill gas, rich in methane (CH₄), comes from the decomposition of organic matter, which occurs in anaerobic conditions.

Ternium Brazil buys biomethane from the Seropédica landfill for its operations, a purified form of biogas (> 96% CH₄), in which CO₂, H₂S and other contaminants have already been removed. This powerful biofuel has characteristics almost identical to fossil natural gas, thus allowing its perfect replacement in steelmaking processes, without the need for any adaptation of equipment for its application.

The expected rate of replacement of fossil natural gas is 34% related to the consumption levels of 2017, which results in the same rate of reduction of Greenhouse Gases (GHG) due to the use of this biofuel in low pressure natural gas consumers for stationary combustion purposes. This expectation of GHG emissions reduction represents 0.5% of Ternium Brazil's annual total scope 1 emissions (site based, direct emissions) for 2017, but this will depend on the operational reality of the biofuel supply.

Ternium Brazil continues to work towards the deep decarbonisation of its processes, taking robust innovative steps regarding the use of biofuel in its operations while at the same time generating value and improving social development in their local community.

Excellence in sustainability

Usinas Siderúrgicas de Minas Gerais S.A. (USIMINAS)



Diversity and Inclusion Programme

USIMINAS is a company that has been traditionally very highly dominated by men. The company has 13,000 employees, with an average ratio of 1 woman for every 9 men. A survey shows that companies with greater gender diversity in corporate positions have a 21% chance of presenting results above the market average. In the case of ethnic and cultural diversity, the figure rises to 33%.

The conversations on diversity at USIMINAS were started in 2018 by a group of employees who were interested in the subject. This led to the launch of the USIMINAS Diversity Programme in January 2019, which later became the Diversity and Inclusion Programme in October 2019. With the statement of the USIMINAS CEO, Sergio Leite, "we want to be a company of happy people." The company intends to achieve this goal by becoming a more diverse and inclusive company each day. With the support of the management, the Diversity Committee was formed, composed of 18 officers and 18 appointed employees. It is the driving force of the diversity actions throughout the company.

The Diversity and Inclusion Programme has five pillars; gender equality, generations, LGBTI, race and ethnicity, and persons with disability. Each pillar has an affinity group and an assigned sponsor from the top management, including the CEO.

As part of the programme, USIMINAS' First Women's Leadership workshop was held in May 2019, discussing how women can strengthen themselves and gain space in the corporate environment. An internal and external campaign was created in July 2019 to collect the CVs of people with disabilities with the motto, "we want everyone in our team!" A training workshop on unconscious bias was organised by the HR department to bring the middle managers closer to the topic.

A communications team was also formed, which consisted of human resources personnel and the representatives of the 5 groups. It is responsible for approving all the materials and communications created, in addition to exchanging experiences on the subject.

The company is currently treading this path and would like to tell the industry what that journey has been like.

Excellence in Life Cycle Assessment

China Baowu Steel Group Corporation



Use of LCA on carbon trading market policy making

China's Guangdong Province carbon trading market is the world's third largest carbon market. A free carbon allowance will be assigned to the companies in the Guangdong Province by the Province's Department of Ecology and Environment (GDEE), which can be bought or sold on the market, based on their actual emissions.

Baosteel's Zhanjiang Site was asked to participate in the carbon trading market in 2018. However, the assigned allowance, which is calculated based on historical CO₂ emissions data of Guangdong's steel production, does not reflect the actual situation of the Zhanjiang site.

In order to obtain the appropriate allowance, Baosteel carried out an LCA study for all their steel products from their Zhanjiang site within two weeks. Baosteel used the results of this study to communicate with policy makers in the Guangdong Province regarding their carbon allowance. The LCA research demonstrated that the CO₂ emissions had not been calculated correctly to determine the carbon allowance for their production, and that the historical data of Guangdong cannot represent Zhanjiang's current situation. Based on their large amount of LCA work, Baosteel convinced the government expert group to use LCA as the appropriate methodology for carbon verification of the Guangdong Province. Their corrected carbon allowance was recalculated for Baosteel's Zhanjiang site.

By using LCA, Baosteel's Zhanjiang site has been able to receive their appropriate carbon allowance, reflecting their actual steel production situation. Their carbon allowance has increased by 580,000 tonnes compared to their initial carbon allowance for their Zhanjiang site, which helped to save RMB 67.62 million (approximately US \$10 million) for the carbon trading cost.

Excellence in Life Cycle Assessment

HYUNDAI Steel Company



Use of LCA to support Integrated Management System development

Since 2015, steel manufacturers in South Korea have been subject to increasing regulations from the South Korean government related to emissions trading, air pollutants, co-products etc. According to the latest environmental law, companies are required to verify the material/mass balance of their processes and determine the emissions of greenhouse gases under ETS phase 3 (2021 to 2025). LCA is being introduced into South Korean legislation to evaluate the environmental performance of the products, and LCA activities are also being encouraged by the government for LCA-based product certification (i.e. low carbon products and Green Standard for Energy & Environmental Design (G-SEED) etc.

Hyundai Steel has developed their LCA system, which can integrate data from different steel production facilities to obtain the environmental impacts of their products. The system largely consists of five parts:

- data input
- mass balance verification
- cradle to gate formation
- environmental impacts evaluation
- application

The system automatically updates data, which can then be used to calculate the verified results to minimise human intervention in data gathering, processing and analysis.

By using this LCA system, Hyundai Steel can easily evaluate and manage their major production sites in Dangjin, Incheon, Pohang and Suncheon. The system can directly calculate the environmental performance of their products in a short time, which can then be provided to Hyundai Steel's customers and government agencies that request this kind of information (for example environmental product declarations (EPDs), emissions trading schemes, and low-carbon certification). Moreover, this LCA system can be expanded to suppliers of raw materials through efficient purchase planning to bring reductions in terms of both cost and environmental impact.

Excellence in Life Cycle Assessment

JSW Steel Limited



Use of LCA in new product development

JSW Steel Limited (JSW) has implemented LCA for their new products: high tensile galvanised coils that will be used in the mounting of ground-mounted solar panels. LCA was used to avoid unnecessary resource consumption, and to ensure a lower environmental impact throughout the lifetime of the products.

Based on the LCA study for their steel products, which helped to identify the environmental hotspots, improvements have been made to their production process to reduce the environmental footprint of steel production. The LCA study has also been conducted to assess the environmental performance of hot rolled coil production from 2017 to 2019 to understand the differences in environmental impacts as a result of process improvements. It was found that the improvement of their steel products in various impact categories is in the range of 2 to 8% due to improvements in resource and energy efficiencies, waste recovery, recycling etc. LCA has helped JSW to set and achieve environmental targets which are monitored on a regular basis, while encompassing sustainable solutions for the businesses that better their performance without compromising on quality.

LCA has also been used as an important marketing tool to develop their environmental product declarations (EPDs), which provide support to JSW when communicating with their customers and external stakeholders. By using JSW's steel products in the construction sector, customers can benefit in certification schemes such as LEED and BREEAM. The use of LCA has demonstrated the sustainability of their steel products through the use of EPDs, which has also built and strengthened their customers' trust.

Excellence in Life Cycle Assessment

Tata Steel Europe



Use of LCA to evaluate technologies for reduced greenhouse gas emission steelmaking

With the increasing need to rapidly reduce the carbon emissions associated with steel production, which is being driven by regional targets for CO₂ reduction, there is a need to be able to quantify what the environmental credentials of emission reduction technologies are in terms of both their 'cradle to gate' CO₂ reduction potential, but also from a holistic, environmental, perspective. Therefore, Tata Steel Europe has carried out a project, using LCA to evaluate the product related environmental impacts with Phase 1 of the Everest project, which aims to reduce carbon emissions in their integrated steelworks site at IJmuiden in the Netherlands through Carbon Capture and Storage (CCS).

An LCA model has been developed for this project to understand the environmental impact associated with the implementation of CCS at the IJmuiden site, focusing on the production of hot rolled coil. The study identified the magnitude of the savings that could be achieved by implementing CCS, in terms of global warming potential at a product level. In addition, the LCA model has the capability to generate LCIs for a range of downstream products (e.g. hot dip galvanised coil) as hot rolled coil is also an intermediate for many finished products. Furthermore, the LCA study can help to optimise plant configuration and support discussions with customers around Tata Steel's decarbonisation roadmap and the potential carbon savings that can be achieved for the steel products they buy through the implementation of CCS.

Excellence in Life Cycle Assessment

Tata Steel Limited



Use of LCA to assess new steel solutions in the construction sector

Tata Steel Limited has carried out an LCA study to assess the environmental performance of a HabiNest structure classroom building at a medical college facility in Jamshedpur, India, and compared it with a conventional structure of a similar size and application.

HabiNest is a light gauge steel frame construction solution, suitable for building academic institutional buildings, industrial amenities, cafeterias, etc. It is a unique modular building construction solution of Tata Steel, designed for the Indian consumer under the Tata Steel brand Nest-In.

The Tata Steel Limited HabiNest LCA study demonstrated the advantages of the steel-based HabiNest structure compared with a conventional structure from a life cycle perspective. The environmental savings of HabiNest are found to be in the range of 48% to 61% compared with the conventional structure through the whole life cycle:

- Using HabiNest, only 35% of the material resources were consumed compared with a conventional structure
- The Global Warming Potential and Primary Energy Demand of HabiNest is 53% lower than conventional structures
- HabiNest construction releases 73 tCO₂ equivalent whereas a similar conventional structure releases around 154 tCO₂ equivalent over its life cycle
- The HabiNest structure also offers environmental benefits at its end of life stage by recycling, whereas in a conventional structure, the materials used are mainly landfilled.

Excellence in education and training

EVRAZ



Top 300/Top 1,000

The aim of the training programme is to help in the development of the EVRAZ Business System (EBS). "We seriously count on EBS as a source of increasing the efficiency of the company's work," Alexander Frolov noted. "It is a system that allows you to set ambitious goals and achieve them through continuous improvement."

During the programme, participants master in 10 leader standard practices. Each of them has its own leader in EVRAZ - Vice President or Director. They share their experience with shop managers and mine managers, after which the students practice in their departments.

TOP 300 consists of 5 modules and serious intermodular work: homework, training webinars, group coaching and consultations with mentors.

The mentors (25 EVRAZ Vice Presidents and Directors) help shop and mine managers to master management practices and learn how to think strategically. There are at least 5 scheduled meetings with mentors as part of the programme, but you can contact them with questions and for advice throughout.

The program for middle managers started in October 2019 and ended in May 2020. The Line Management Programme started in January and ended in June 2020.

The programme for the middle management started off-line, but due to COVID-19, modules 3, 4 and 5 were held as video conferences. And for line management, only 1 module of the programme was conducted in-person. All participants agreed that video conferences did not lower the quality and benefits of the programme.

Excellence in education and training

JSW Steel Limited



Virtual Academy

JSW aims to develop 70% of its workforce every year through customised learning initiatives. COVID-19 however posed different challenges such as nationwide lockdowns for several months, which led to travel bans, remote working and constant reinforcing of social distancing norms, all of which led to a disruption in learning strategy.

To promptly pivot towards a Virtual Instructor Led Training (VILT) environment, we launched JSW – Virtual Academy which is a modern learning offering for all employees across seniority levels. Through advanced and engaging training with the use of videos, interactive slides, games and simulations, the movement towards virtual learning was seen as a catalyst in creating an effective method of training individuals spread across locations and geographies during the pandemic.

To ensure a smooth transition in learning modes, learners were trained initially on virtual collaboration platforms like WEBEX, ZOOM and Microsoft Teams. With real time updates of training calendars on the Learning Management System, the onus was on employees to keep track of their learning and nominate themselves to sessions of their interest. Through a well researched and structured instructional design, our VILTs helped foster cooperative learning via group discussions, polling, and small group breakouts. The key challenges of learner engagement and low attention span were also addressed by ensuring the sessions were filled with humour, icebreaker activities, short video clips and gamified activities.

Being conducted in three phases, namely pre-reads, workshop and post workshop assignments, this received an overwhelming enthusiastic response. The pre-reads helped us provide a quick introduction to the subject. The in-built assessments helped measure skill/knowledge gain through case studies, gamification, in-baskets, post-workshop assignments and others.

Through 85 programmes over three months, we have covered 2,300 participants. We plan to cover more than 5,500 participants by December this year. The virtual learning environment has proved to be conducive for fluid exchange of ideas, more focused role play of scenarios, and an intensified level of engagement.

Excellence in education and training

Tata Steel Limited



Digie-Shala (Capability Development)

Capability Development, a century old learning and development wing of Tata Steel, has a vision to see Tata Steel become a pioneer in transforming the education landscape - a model for continuous, lifelong learning to meet the needs of tomorrow's world, which would eventually result in impacting every household across the globe. To transform this vision into reality we launched Tata Steel Digie-Shala in FY'21.

Our brand thrives on a unique three-pronged Assessment, Training, Recruitment (ATR) approach in steel industry. Our Technical Assessment model helps assess candidates including students and working professionals against identified competencies to recommend the right kind of training to become industry-ready. There has been a planned shift to modern training methodologies, including blended learning, e-learning and smart classes. We are collaborating with several organisations (including steeluniversity) to make their world-class resources available to our customers and vice versa. On the recruitment front we have come up with a unique Work from Home (WFH) internship for every student, which exposes them to best practices in a manufacturing industry, thus helping them become future-ready. To further boost placement opportunities, we have collaborated with the Confederation of Indian Industry (CII) to set up an employment exchange Model Career Centre.

Our brand Tata Steel Digie-Shala amalgamates all these services on one platform, our ecommerce website (www.capabilitydevelopment.org).

With approximately 0.4 million customers worldwide onboard and around 1 million e-learning courses allocated, we aspire to become a 1 billion USD business 10 years from now.

Excellence in education and training

Ternium



Ternium University

In August 2019, Ternium inaugurated its corporate university. With the mission of learning, sharing and growing, Ternium University provides career development activities and programmes for 100% of its employees.

The implementation project, launched in 2018, involved a team of 50 professionals from the human resources, corporate communication, and information technology areas of the company. Also, the project has involved about 350 technical experts of the different production processes in order to support the creation of high-quality content.

This August 2020, Ternium University celebrates its first anniversary, highlighting relevant impacts for Ternium business and cultural transformation. The corporate university programmes have reached over 22,000 employees from shop floor to top management and have also had an impact by significantly reducing the company's annual training budget.

Ternium University is expected to be fully operational during 2021 when the last academy, the Technical Academy, will be fully implemented.

Excellence in education and training

TMK (PAO)



TMK2U E-Learning Developers School

The main objective of the E-Learning Developers School is to build a team of internal developers who together with the company's experts create unique courses designed to meet TMK's needs without using external contractors.

All students are employees of the company's non-core divisions, who are engaged on a voluntary basis. Course development becomes their additional function and competence. Based on the training results, each student releases a practical course on a topic important for the company.

At the moment, 19 students have successfully completed training. They have already created 35 courses and these courses were completed over 50,000 times on the LMS.

Amid the COVID-19 pandemic, the project proved to be super-efficient: it enabled the company not only to continue employee development, but to improve the efficiency of the learning process. Before, we often used expensive services of external contractors, but today we have become convinced of the importance of using our internal resources and redistributing them.

Strengthening our work in e-learning had a significant economic effect due to the transfer of a part of classroom training to the distance training mode, which in no time at all made training accessible to all employees of the company. We target and solve real business problems.

Today the main areas of e-course development are internal instructions on health and safety, process instructions, regulations and software notes.

TMK plans to further develop the project, increase the team of developers and expand the areas covered by the e-courses.

Journalist of the year



Hongmei Li, Head of Editorial, Mysteel Global

Colin Richardson, Editor, Argus Media

Annalisa Villa, Team Leader News, EMEA, S&P Global Platts

Excellence in communications programmes

JSW Steel Limited



Roof to Dream

Dreams do not know limits. Unfortunately, circumstances do. While for students in urban educational institutions, dreams already come with an in-built incubator, students in low-income schools struggle to keep the kindle of their dreams burning in a leaking classroom.

Around 58% of schools in India require significant repairs. Many of them shut down on days when it rains, leading to an increase in school dropouts. JSW Steel wanted to keep those fires alight and those dreams alive, one school at a time.

So to tackle this harsh reality, JSW Steel initiated 'Roof To Dream', a purpose-driven marketing initiative, wherein the brand installed JSW Colouron+ colour coated steel roofs in severely affected schools for free. After successfully renovating 1 school (Shanti Sahyog Preschool, Delhi), the brand plans to cover around 1,000 schools within the next 3 years.

This message was woven into a brand film which deployed powerful visual storytelling to capture the essence of this thought – the opportunity to realise one's dream needs to be made equal for all children. The strategy, therefore, was to blend fictional storytelling with real testimonies to create a stir in the audience, and then leverage the impact created to drive home JSW Steel's stature as a responsible corporate citizen committed to sustainable practices.

The campaign saw a reach of more than 13 million and positive sentiment increased from 39% to 52%.

The films gave the brand an opportunity to position itself as a socially conscious leader that believes in real, measurable positive change.

Excellence in communications programmes

Tata Steel Limited



Celebration of 100 years of India's first planned industrial township

It was on 2 January 1919 that the small hamlet of Sakchi was rechristened as 'Jamshedpur' by Lord Chelmsford, the then Viceroy and Governor General of British India. This honour to name the city after the founder of the company, Jamsetji Nussrwanji Tata, was in recognition of the support provided by the company to the British war efforts. The city today is a beacon of a truly cosmopolitan and vibrant India.

Jamshedpur, home to Asia's first integrated private steel company, is now synonymous with more than just steel. The city boasts the first industrial planned city of modern India and the most populous urban agglomeration in Jharkhand. The city is an embodiment of a vision envisaged by the founder, executed by his successors, developed and evolved by future generations. It is a multi-layered story. What started as a small industrial township in eastern India, gradually drew people from all over the country, and from overseas as well. This has given the city a cosmopolitan plurality that is not only inclusive, but also rewarding. Be it in terms of art and culture, festivals and places of worship, architecture, community bodies and associations and more, Jamshedpur has a uniquely diverse identity.

The Tata Steel plant remains at the heart of the city and continues to play an important role in civic life and administration. The management, the employees and all our stakeholders, including the families, see the city as a natural extension of the plant and a space that we must nurture and be proud of.

Communication plays a vital role to spread awareness through a collective and holistic approach to encourage the citizens to participate and help them understand and appreciate the city's historical evolution in simple ways. Using an appropriate media-mix and community-centric initiatives ensured that all stakeholders were reached with targeted communication.

Excellence in communications programmes

Tenaris



Tenaris communications response to COVID-19

Tenaris has been affected by the COVID-19 crisis and the strategic approach of the company demanded helping its people and communities. With Humanitas Research Hospital as a strategic partner, Tenaris moved to ensure that all audiences in its orbit received correct information to stay safe, producing 107 videos and 1,016 posts that were seen more than 5 million times, receiving 103,875 likes, comments and shares from the audience from December 2019 to today.

The communities where Tenaris operates knew that the company was still working safely, and employees were working for something to believe in.

Actions done in the campaign were clear, direct and guided by:

- Making things shareable so they spread faster with exciting, engaging and true content
- Putting people first, letting them tell stories of resilience and recovery to one another as it happened
- Making connections close, hosting webcasts and live videos that made a direct channel for questions, concerns and understanding in all of Tenaris
- Sending messages of solidarity, communicating frequently on social media of Tenaris movements, supporting and strengthening sectors of health

This integral employee communications programme was based on a knowledge of the audience and a proactive attitude of listening to them. Indeed, proximity to employees, customers and the community, connecting with them rapidly and transparently was of crucial importance. Production of content that is caring and transparent was also important, as was understanding that this is an age of turbulence for all. A moment of crisis is a true challenge for leadership in communicating. At stake is the license to operate, to hold trust.

Excellence in communications programmes

Ternium



Ternium communications response to COVID-19

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Excellence in communications programmes

Ternium



The soul of Mexico

Even though 2020 has been a complicated year for every industry around the globe, it's during the difficult times that we find the true value of the things that makes us stronger.

That's why we decided to launch "El alma de Mexico" (The soul of Mexico).

"The soul of Mexico" is not just an ad, it goes beyond that. The message invites us to profoundly think that we are not just steel. We are movement. We are commitment. We are warmth. We are pride. We care.

"Today, we are what moves people, and thanks to them, we are getting stronger, because in the current context, it is people that matter most."

The campaign was born as an homage to all those people who throughout history have transformed and shaped steel to change the way we live.

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