



# Steelie Awards WINNERS 2021

## Introduction

The Steelie Awards recognise World Steel Association (worldsteel) member companies 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 2021 Steelie Awards were announced on Wednesday 13 October 2021.



## Nominations overview

### Excellence in digital communications

**JSW Steel Limited**  
**Metinvest Holding LLC**  
**POSCO**  
**Severstal (PAO)**  
**Tata Steel Limited**  
**Ternium**

### Innovation of the year

**Acciaierie Bertoli Safau S.p.A.** ABS Quality Wire Rod QWR 4.0  
**EVRAZ** Development of ultra-premium strength rail grade (Apex G2HH) with improved wear and rolling contact fatigue (RCF), ductility, weldability and enhanced safety through superior fracture toughness  
**JFE Steel Corporation** Green beverage can with unique Cr plated steel sheet  
**Nippon Steel Corporation** MEGA NSHYPER BEAM™  
**POSCO** Roll stamping technologies for automotive giga steel

### Excellence in sustainability

**ArcelorMittal** Sustainable charcoal use for CO<sub>2</sub> neutrality  
**China Baowu Steel Group Corporation Limited** Research and application of waste heat cascade comprehensive utilisation method and its key technology in the iron and steel industry  
**HBIS Group Co., Ltd.** Large integrated intelligent unmanned material yard  
**JSW Steel Limited** Recycling of plastics in electric arc furnace - leveraging innovative techniques to tackle global sustainability issues  
**POSCO** Slag upcycling for negative emissions  
**Tata Steel Europe** Zero-carbon logistics

## Nominations overview

### Excellence in Life Cycle Assessment

**ArcelorMittal** Comparative LCA for water drainage systems

**JSW Steel Limited** Using LCA to evaluate the environmental performance of new product development and promotion

**POSCO** Using LCA to assist automakers in recognising the benefits of steel

**Tata Steel Limited** Using LCA in developing India's first Type-1 Eco-label for steel rebars

### Excellence in education and training

**Gerdau S.A.** *Realizar* 2020 Programme

**HBIS Group Co., Ltd.** Online training and innovation platform

**JFE Steel Corporation** Education system through MR/VR

**JSW Steel Limited** Developing the next generation of leaders at JSW

**Tata Steel Limited** Safety standard knowledge dissemination to 30,000+ Tata Steel Limited workforce – Learn, Apply, Excel

### Excellence in communications programmes

**ArcelorMittal** *Evoluir* Programme

**POSCO** Park1538, an innovative cultural space showcasing breakthrough technology and the ultimate beauty of steel

**Tata Steel Limited** Integrated communications approach for COVID-19 preparedness and response across all operating locations

**Tata Steel Limited** Tomorrow LAB

**Tenaris** Safety commitments at Tenaris yards

**Ternium** The soul of Mexico

## Excellence in digital communications



Digital is one of the most powerful ways to reach people. It helps us to build relationships with our communities and to share important information and updates about our activities. This award recognises all digital communications efforts from website to mobile applications to social media. It looks at the overall design, look and feel, quality of information, ease of navigation, loading time and use of technology deployed on the website; presence and activity on social media; range and quality of digital and interactive media; best practice leadership; and finally digital innovation.

**JSW Steel Limited**

**Metinvest Holding LLC**

**POSCO**

**Severstal (PAO)**

**WINNER: Tata Steel Limited**

**Ternium**

## Innovation of the year

### WINNER : POSCO



### Roll stamping technologies for automotive giga steel

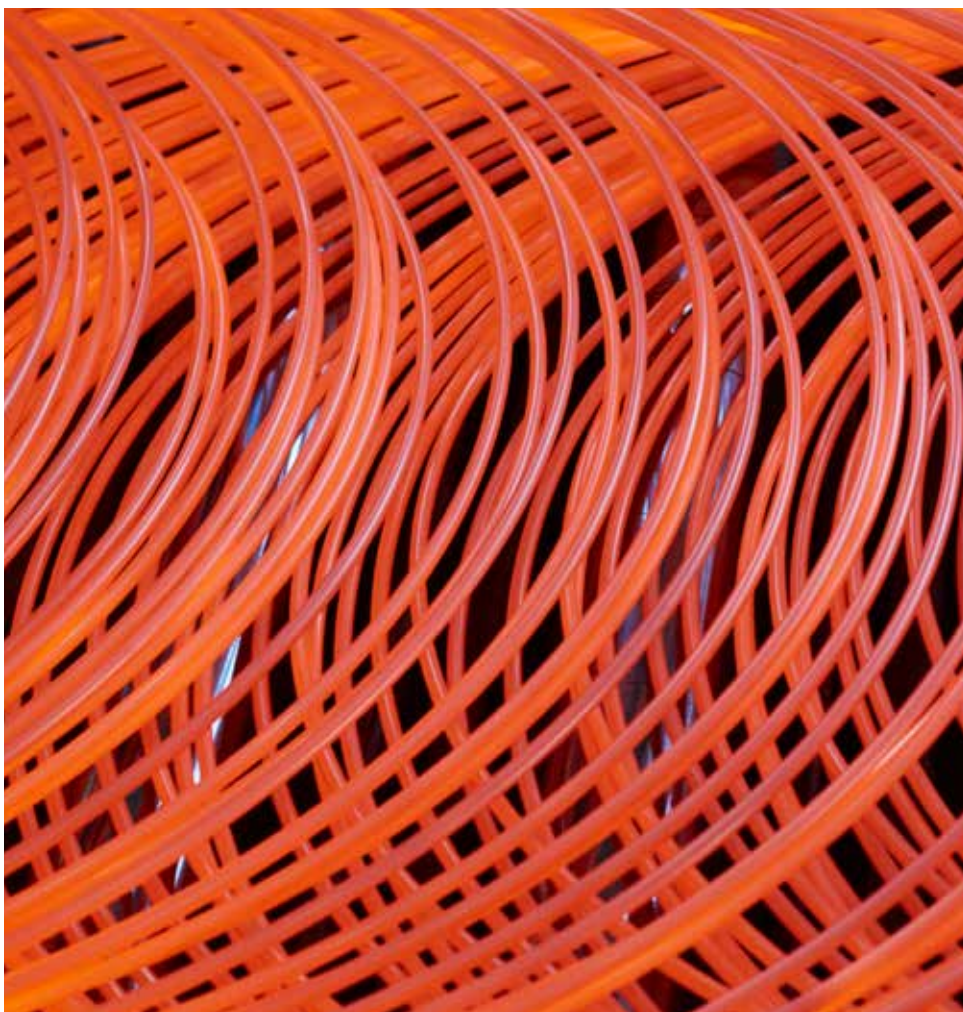
Roll stamping is a manufacturing process used to produce automotive parts. Using this method, POSCO has developed the cold-formed automotive Door Impact Beam that leads to a 10% weight reduction and 20% cost savings. Furthermore, the 3.6kg per car of greenhouse gas emissions was reduced by eliminating the heating process and integrating parts.

The Door Impact Beam was developed by taking advantage of the flattening concept. Conventional door impact beams are commonly manufactured by using 1.5GPa post heat treated steel pipes. This method requires additional brackets that are welded onto the pipe and the door. While this pipe provides good crashworthiness, the manufacturing costs are exorbitant. POSCO developed the Door Impact Beam by using the combined processes of roll forming and roll stamping to mitigate these disadvantages.

The roll forming process is followed by roll stamping, which creates the partial flattened region in an in-line process. This partially flattened area is cut and applied to the front and rear brackets. Finally, the pipe and brackets were removed; instead, they were integrated into the single beam component. In lieu of the 1.5GPa post heat treated steel pipe with 2.0mm thickness and the 780MPa brackets with 1.4mm thickness, POSCO developed the open sectional and cold-formed door impact beam using 1.2GPa steel with 1.0mm thickness.

## Innovation of the year

### Acciaierie Bertoli Safau S.p.A.



### ABS Quality Wire Rod QWR 4.0

ABS Quality Wire Rod 4.0 is today the realisation of the rolling mill of the future in terms of technological innovation, digitalisation, safety and a green steel approach.

ABS QWR 4.0 was conceived from the beginning not only to be the leading wire rod mill, incorporating the technologies often labelled Industry 4.0, but also to enable sustainability in metals manufacturing. Advanced control systems and special instrumentation were conceived, also redesigning mechanical solutions, to minimise human operations on the field or to make them simpler and more intuitive.

Quality management requires exact production tracking, which was also achieved thanks to yard management systems, robotics for material marking, artificial vision systems to identify and check for specific markings, fully automatic coil yards connected to process control systems and plant enterprise resource management (ERP).

QWR 4.0 yards and logistics management was designed to ensure full traceability and fully automatic handling of billets and coils. A new and fully immersive control and supervision model based on a strong human-machine interaction and processing technologies was designed, the so-called Danieli Intelligent Plant (DIP). Process, production, and equipment are holistically integrated with operators and decision makers using a data-driven approach, artificial intelligence and machine learning, all of which enable autonomous optimisation of process, quality, and maintenance.

## Innovation of the year

### EVRAZ



Development of ultra-premium strength rail grade (Apex G2HH) with improved wear and rolling contact fatigue (RCF), ductility, weldability and enhanced safety through superior fracture toughness

EVRAZ has developed a patented rail alloy which is designed to improve wear and rolling contact fatigue (RCF) performance with enhanced ductility, fracture toughness and weldability.

The conventional approach to extend rail life is to increase hardness with additional carbon content. The use of hyper-eutectoid rail steel compositions improves resistance to wear but also reduces ductility and fracture toughness. EVRAZ therefore developed a new metallurgical approach to improve performance without sacrificing important material properties.

The development of the new Apex G2HH ultra-premium strength rail grade involved advances in rail alloy strategy that promote a fine pearlite microstructure at a carbon level that complies with industry guidelines. The result is a rail that is between 20 HB and 50 HB higher hardness than conventional rail with an improvement of between 45% and 75% in ductility as measured by reduction of area.

## Innovation of the year

### JFE Steel Corporation



### Green beverage can with unique Cr plated steel sheet

JFE has developed a new type of tin-free Steel (TFS) with a granular metallic chromium layer. The granular chromium breaks the chromium oxide layer by point contact, achieving low contact resistance. Deposition of nanometer-scale fine granular chromium is controlled by a unique electrolysis technology. The new TFS has superior weldability compared to tinplate and is the world's first TFS that enables high-speed welding of beverage cans.

The newly developed TFS costs less than tinplate, contributing to the reduction of can manufacturing costs. Since unit power consumption is substantially reduced in comparison with tinplate, the new TFS can reduce CO<sub>2</sub> emissions from the plating process by half. As a tin-free product, it can also contribute to the stabilisation of the price of metallic tin and a stable supply of steel sheets for cans.

Some of the advantages of the newly developed TFS over conventional tinplate include:

Weldability	1.7x
Material cost	-8%
Energy saving and CO <sub>2</sub> emissions	-56%

## Innovation of the year

### Nippon Steel Corporation

### MEGA NSHYPER BEAM™



Large structural members are required for long-span beams in high rise buildings. Nippon Steel Corporation had already established a breakthrough rolling process to manufacture H-beams of uniform outer dimension with various web and flange thicknesses, NSHYPER BEAMs™. Now Nippon Steel has released the MEGA NSHYPER BEAM™ with expanded outer depth dimension of up to 1,200mm, about 20% greater than the previous largest dimension of NSHYPER BEAMs™.

The inventive skewed rolling process enabled the production of universal web height dimensions for NSHYPER BEAMs™ providing around 750 combinations of outer dimension, web and flange thicknesses. The uniform outer dimension with variety of web and flange thicknesses enabled simple beam-to-column moment connection design. There was a limitation in the outer size of NSHYPER BEAMs™ in the conventional rolling process, keeping the form and thickness of its flange and web precise in the manufacturing process. With 16 years of endeavour, however, Nippon Steel finally established the breakthrough technology to produce the MEGA NSHYPER BEAM™ with a newly invented specialised process.

## Excellence in sustainability

### WINNER: Tata Steel Europe



### Zero-carbon logistics

Zero-carbon Logistics is a logistics sustainability framework focusing on Tata Steel Europe's outbound deliveries.

Since the launch of Zero-carbon Logistics in May last year, 25 active projects have led to 9,162 tonnes of CO<sub>2</sub> emissions reduction in logistics emissions and delivered €3.7million of financial benefits up until June 2021. Transport-related scope 3 GHG emissions are a minor part of a steel-making company's total emissions and thus receive little attention. This programme has raised awareness of transport emissions internally as well as externally with our customers and suppliers across different sectors.

Its goal is to reduce transportation's impact on climate change and local communities by embedding sustainability in daily logistics operations.

Tata Steel Europe considers logistics sustainability a systems challenge and therefore have put collaboration at the centre of everything we do.

Together with customers and suppliers, the company reduces the impact (not only GHG emissions) of our outbound deliveries.

The level of the sustainability dialogue with our stakeholders has increased due to the more open and transparent collaboration.

Tata Steel Europe believes that logistics sustainability can and should be used to create a competitive advantage.

## Excellence in sustainability

### ArcelorMittal



### Sustainable charcoal use for CO<sub>2</sub> neutrality

Aware of its responsibility in reducing the carbon footprint in the steel sector, ArcelorMittal has the goal of achieving carbon emission neutrality by 2050, and has been improving the production process and implementing new technologies in its plants around the world. In Brazil, an intermediate goal of 10% reduction in greenhouse gas (GHG) emissions by 2030 has also been established, and one of the alternatives implemented to help meet these commitments is the use of sustainable charcoal produced in ArcelorMittal BioFlorestas units to neutralise carbon emissions generated in ArcelorMittal Juiz de Fora's production process.

ArcelorMittal BioFlorestas units produce charcoal from hybrid eucalyptus species planted in areas that did not have native vegetation, in addition, they are certified in the FSC (Forest Stewardship Council), a multi-stakeholder standard that is an international reference in environmental conservation, sustainability, social and economic justice for the forestry industry. The BioFlorestas is considered a source of environmental, economic, and social wealth because the forests in the sites generate jobs and mobilise various socio-environmental responsibility actions, such as the forest fire prevention and environmental education programmes, as well as the implementation of ecological corridors, conservation of protected areas, and reintroduction programs for animals that were victims of illegal trafficking.

Obtained from sustainable planted forests, the charcoal produced at ArcelorMittal BioFlorestas is considered a clean, renewable energy source, besides contributing to the fight against the greenhouse gas effect and, consequently, global warming, due to the forests' high capacity to absorb CO<sub>2</sub> from the atmosphere through photosynthesis, being a carbon-neutral fuel.

In order to measure and prove the efficiency in terms of carbon neutrality of using charcoal in steelmaking production, a case study was carried out at the Juiz de Fora unit that uses charcoal produced at ArcelorMittal BioFlorestas as raw material since 2011. The study, based on internationally recognised methodologies, consisted in balancing the volume of CO<sub>2</sub> retained by sustainable forests from planting to harvesting period and in measuring GHG emissions from the production process, covering the entire charcoal cycle, including the logistics for transporting the material between sites and the use of raw material in blast furnaces.

## Excellence in sustainability

### China Baowu Steel Group Corporation Limited

#### Research and application of waste heat cascade comprehensive utilisation method and its key technology in the iron and steel industry



A huge amount of waste heat resources are associated with the production processes of the steel industry, of which a large quantity of medium and low temperature waste heat is still emitted directly, resulting in energy waste and an increase in environmental thermal effects.

After more than ten years of assiduous research, this project has revealed three major reasons for the low utilisation rate of steel waste heat and has proposed corresponding solutions. At the same time, it has put forward the industrial waste heat cascade comprehensive utilisation (RRUC) system method and filled the gap between the basic theory of energy cascade utilisation and field engineering practice. It has developed the key technology for high-efficiency recovery of typical medium and high temperature waste heat with intermittent fluctuations of dust and sulphur and applied them in coke ovens, electric furnaces etc. It has also developed a series of advanced technologies for low-temperature waste heat utilisation and applied them in sintering, steel rolling and etc.

This project forms a set of steel industrial waste heat cascade comprehensive utilisation system method and technical system. At present, it has been applied in Baosteel, Shaosteel, Eastern Steel and other corporations and has achieved significant economic, environmental and social benefits.

## Excellence in sustainability

### HBIS Group Co., Ltd.



### Large integrated intelligent unmanned material yard

HBIS Tangsteel's unmanned material yard follows the principle of "intelligently leading, practical, reliable, economic, environmental protection," so that the overall layout and implementation, production technology and equipment level, and process control and management level can achieve a harmonious unity.

The general layout of general and process is rational, saving land and investment, and the function of storage and transportation is perfect.

The design concept is to maximise the use of the site, shorten the distance of raw fuel transportation, and smooth logistics.

The design fully considers the environmental impact, reduces the emission of various pollutants, and allows for clean production.

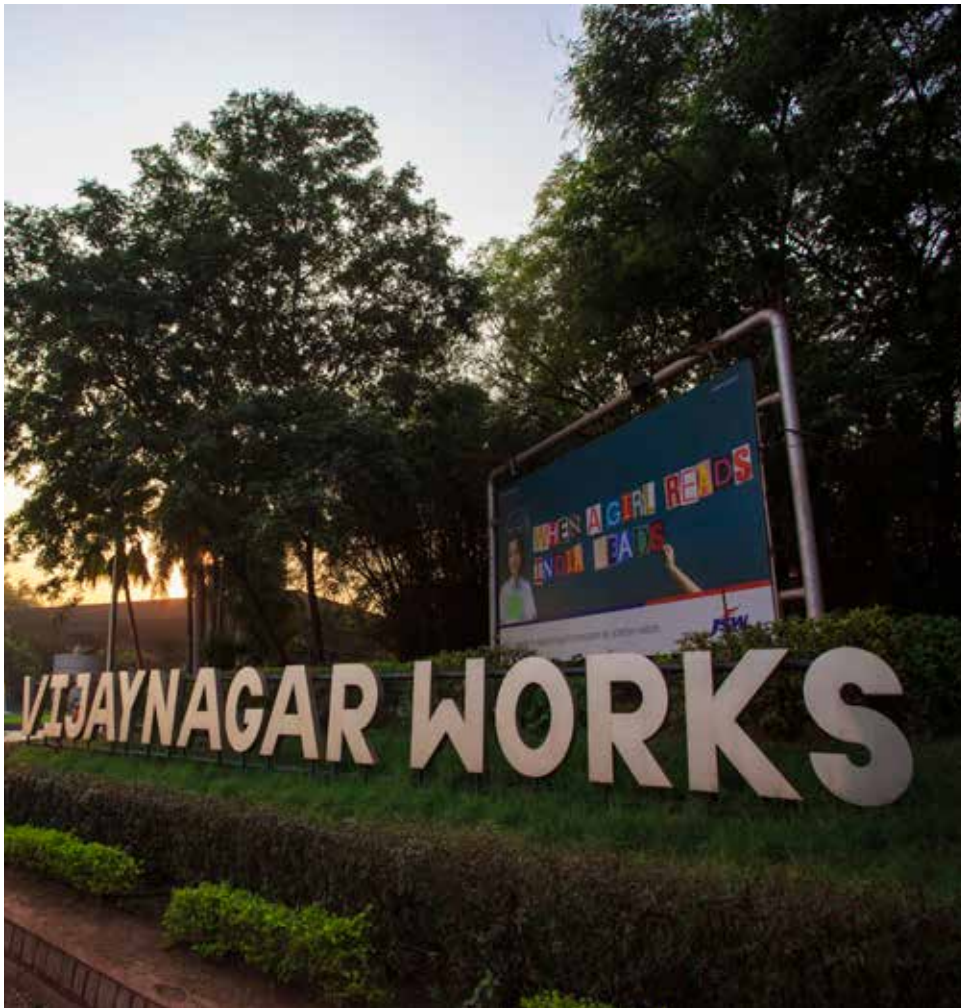
No materials are stacked in the open air.

Using mature and practical advanced process, technology and equipment at home and abroad, the technical equipment level has reached the leading advanced level in China.

The unmanned material yard ensures long-term, safe and stable production of raw materials, reduces energy consumption, and achieves higher economic benefits.

## Excellence in sustainability

### JSW Steel Limited



#### Recycling of plastics in electric arc furnace - leveraging innovative techniques to tackle global sustainability issues

At JSW's Vijayanagar Works in Karnataka state, innovative new techniques developed as part of the 'Recycling of plastics in electric arc furnace' project, where plastic waste is used as a replacement for coke fines as a foaming agent in the electric arc furnace, have resulted in a wide range of environmental, social and economic benefits including:

- Recycling approximately 340 tonnes of plastic waste each year
- Removing an equivalent tonnage of waste from local landfill
- Reducing the use of coke fines by approximately 340 tonnes per year (10% of total coke fines used in the furnace) and thereby also removing the need for additional treatment of tar, sulphur etc. associated with coke fine production.
- Reducing Vijayanagar Works' climate change impact by reducing CO<sub>2</sub> emissions from the use of coke fines by over 1,000 tonnes
- Reducing the percentage of iron oxide in slag by 0.7%
- Achieving these environmental benefits whilst maintaining steel production process/efficiency
- Providing an estimated return on investment of just 7 months and an estimated annual saving on raw materials of Rs. 1,970,640 (approximately \$26,600).

Key to the success of the project is the development of an innovative pneumatic conveying system for the introduction of the plastic into the furnace, for which a patent has been filed.

This project is also part of a wider site business review being carried out at the Vijayanagar Works aimed at:

- Minimising the creation of waste, including plastic
- Managing and segregating waste to maximise the potential for recycling
- Identifying innovative uses for waste.

Such processes and objectives are identified, managed and delivered through JSW's comprehensive Sustainability Framework, enabling the business to continually improve its performance across its 17 Focus Areas and ultimately achieve its Sustainability Vision.

## Excellence in sustainability

### POSCO



### Slag upcycling for negative emissions

In recent decades, we have seen increased steel production, which creates more co-products, including slag. To minimise the environmental consequences caused by large volumes of slag, there is a growing need to better recycle these and other manufacturing co-products. As one way to recycle slag, the steel industry is developing new applications and encouraging businesses to upcycle them in various fields, such as construction and agriculture.

First, in an effort to upcycle steel slag, POSCO has developed “Slastics,” a composite material comprised of steel slag and plastic waste. As Slastics are remarkably durable and long-lasting, it has great potential for broad applications as building and engineering materials. Moreover, by replacing wood, plastic, and concrete, it may serve as the new material used to build green infrastructure. Compared to when plastics are incinerated, 99% of greenhouse gas (GHG) emissions are avoided when plastics are reused to produce Slastics; this is equivalent to preventing 2.33 tonnes of CO<sub>2</sub> for each tonne of recycled plastic.

The second effort POSCO made toward upcycling is silicate slag fertilisers that were made available to farming communities. The fertiliser contains 25-30% of soluble silicic acid that boosts photosynthesis in rice plants, which increases rice crop yield. Paddy fields treated with silicate fertiliser have proven to have “Negative Emissions,” owing to iron ions in slag that mitigate GHG emissions. Thus, silicate fertilisers contribute to national GHG reduction in the agricultural sector. Since 1974, 14 million tonnes of silicate fertilisers have been distributed to rice paddies to improve the crop yield and enhance quality. This translates into better profit for farmers.

## Excellence in Life Cycle Assessment

**WINNER: JSW Steel Limited**

### Using LCA to evaluate the environmental performance of new product development and promotion

Thermo-mechanically treated (TMT) rebars form the backbone of any reinforced cement concrete (RCC) structure, and so their quality is critical in defining the overall quality of the structure. In 2021, JSW Steel developed Fe 550D grade of thermo-mechanically treated rebars, which is a higher performance product with higher yield strength. This grade of TMT rebar was launched in the Indian retail market under the brand of 'JSW Neosteel Fe550D'.

This new product has successfully been certified with the Confederation of Indian Industries GreenPro Ecolabel, with LCA being an important criterion. It demonstrates the significant contribution that can be made towards the green building movement in India, not only in terms of enabling consumption of less steel but also enabling the use of a greener product in the construction sector. Comparing with the baseline product Fe500D grade, 'JSW Neosteel Fe550D' decreased global warming potential and blue water consumption from a life cycle perspective.



## Excellence in Life Cycle Assessment

### ArcelorMittal



### Comparative LCA for water drainage systems

In North America, corrugated steel pipe is the most widely used product in rural water drainage applications. However, in municipal storm sewer applications, concrete enjoys close to a 100% market share. The municipal storm sewer market is significant in size but it is conservatively estimated that only 100,000 tonnes of steel are used per year in Canada. There is no technical rationale for using concrete over steel in this application. The products are functionally equivalent by providing water drainage over a minimum service life of 75 years. However, the environmental benefit of choosing steel over concrete in this application is dramatic. With a significant influx of government infrastructure spending expected over the next decade, and in particular for storm water systems with the advent of climate change induced severe weather, it is essential that the consequences of procurement decisions be made apparent.

ArcelorMittal has carried out a comparative LCA study for water drainage systems to show the environmental benefits between corrugated steel pipe and concrete pipe. The Carbon Footprint Calculator has been developed for effective communication on the environmental performance of steel and concrete pipes. In terms of the impact of global warming potential (GWP), the concrete pipe is over 4 times higher on average than the steel pipe. It is conservatively estimated that the annual steel industry benefit related to converting the entire North American municipal storm sewer market to steel from concrete is 1.1 million tonnes of value-added hot-dipped galvanised steel business. The environmental benefit associated with this would also reduce carbon dioxide emissions by approximately 7.4 million tonnes.

## Excellence in Life Cycle Assessment

### POSCO



### Using LCA to assist automakers in recognising the benefits of steel

This year POSCO launched e-Autopos, a brand comprised of products and solutions prepared for eco-friendly vehicle manufacturers.

Through e-Autopos, customers obtain information regarding pre-manufacturing carbon footprint, processing technology applied in the manufacturing stage, and design solutions that are impactful at the end-user stage. Using e-Autopos allows POSCO to provide customers with information and services that enable LCA-based assessment of the finished products, which can help them to make informed and optimal material choices.

By offering the processing technology and solutions inherent in e-Autopos, POSCO assists customers in reducing carbon produced in their automobile manufacturing process. Customers can assess each stage of a product's life cycle:

- material manufacturing stage based on POSCO's high-performance e-Autopos products and EPD certifications
- vehicle manufacturing stage based on processing technologies
- use phase based on the reduction, efficiency improvement, and avoided emissions achieved by material and design solutions.

Customers can obtain information from an LCA perspective, and they can also identify the benefits of using POSCO high-performance steel. Compared to the same period of last year, in the first half year of 2021 there was a 43% increase in high-strength automotive steel product sales. During the same period, high-efficiency electric steel sales grew by 14%. The avoided emissions estimated based on high-strength automotive steel sales over the first half year of 2021 stands as approximately 1.6 million tonnes of CO<sub>2</sub>. Approximately 3.4 million tonnes of CO<sub>2</sub> are estimated to have been avoided based on high-efficiency electric steel sales.

## Excellence in Life Cycle Assessment

### Tata Steel Limited



### Using LCA in developing India's first Type-1 Eco-label for steel rebars

In India, the Confederation of Indian Industry Green Business Centre, CII GBC, operates the Type-I Ecolabel programme called "GreenPro Certification" for building materials, and standards have been developed for building materials to enable the sustainable manufacturing of these materials and to promote the use of sustainably manufactured materials with a lower environmental impact. However, until recently there was no such standard developed for steel rebars which is one of the basic materials required for the construction of buildings.

Tata Steel initiated the idea with the CII GBC to develop an Ecolabel standard for steel rebars in India to promote sustainable manufacturing and products with reduced environmental impacts. This is the first Ecolabel developed for steel rebars in India and will benefit not only the entire rebar manufacturers of the country (including all manufacturing routes), but also retail consumers who are looking to use a comparatively sustainable product.

GreenPro for steel rebar is the first Ecolabel that supports the life cycle environmental improvements of the entire steel industry of the country, including the secondary steel makers which are relatively larger in numbers. It is also essential to reduce the environmental footprint of steel rebars manufactured across the country with the potential increase in the construction sector in India.

## Excellence in education and training

**WINNER: HBIS Group Co., Ltd.**

### Online training and innovation platform

In order to improve employee self-learning interest, continuous learning ability and innovation literacy, HBIS's "Online Training" system has independently developed an employee online training and innovation platform integrating employee training and innovation, incorporating knowledge-learning, technical research, collaborative innovation, and results display.

Employees can use PCs, PADs, and mobile phones to log in to the platform and use fragmented time to conduct self-service learning and technological innovation activities, which meets the diverse, personalised, and convenient learning and innovation needs of employees.



## Excellence in education and training

### Gerda S.A.



### *Realizar* 2020 Programme

The year 2020 started with bright prospects for Gerda. On the verge of completing 120 years, the company remained firmly committed to its purpose and principles, with a focus on its people, sustainability and digital and cultural transformation. The results pointed to an exceptional phase, but the novel coronavirus spread across the world and hit Brazil severely in the first quarter, leading to market contraction and consumption of a part of the backlog.

Amid this challenging scenario, the *Realizar* 2020 Programme was created, the goal of which was delivery of results and creation of an on-the-job opportunity to accelerate digital transformation. With the slogan, “Making the Improbable Happen,” the project surpassed its target already in its first year, delivering gains of US\$157 million, compared to the initial projection of US\$120 million, considering the Gerda Brazil Long Steel business (GAB) and the Gerda Brazil Special Steel business (GSB), from July to December 2020. The rolling forecast, which had fallen to US\$12.3 million in April, registered an actual amount of US\$17.4 million. The innumerable legacies also include the mapping of 72 opportunities.

Given the strong partnership that already exists between the people team and the digital technology team, the *Realizar* Programme accelerated the dissemination and learning processes of an agile mindset across the organisation, while strengthening key growth drivers with a team of leaders to tackle specific fronts.

The programme involved 90 employees in nine multidisciplinary teams called squads, with each having eight to ten members and led by a Project Owner (PO). The CEO himself and other sponsors participated in bi-weekly meetings with teams to support their knowledge and development vision in challenges.

## Excellence in education and training

### JFE Steel Corporation



### Education system through MR/VR

JFE Steel has been providing safety education using CG and VR to all employees working at the site. JFE has introduced a training simulator for the operation of adjusting the amount of molten steel cast in a continuous casting machine that utilises the latest mixed reality (MR) technology for the first time in the world steel industry.

With MR technology, it is possible to create a training environment that combines the movement of people in the real world with a virtual factory accurately reproduced on a computer. MR technology-based training provides a realistic experience of equipment operation, such as moving around the equipment, handling tools, and operating switches as if you were in the real operation site.

One of the reasons for introducing this system is that the ratio of young employees is increasing at JFE due to the rapid generation change at manufacturing sites. In order to maintain and improve the skill level of younger employees, we have assigned specialised staff to transfer skills through the standardisation of skills and knowledge. However, we had to rely on OJT for some high risk on-site operations.

In order to solve these problems, we have decided to use MR technology especially for operations that require special skills such as high-temperature melts, since we believe that virtual environment trainings are effective in addition to desktop education and OJT. We are planning to expand the range of facilities covered by this training simulator to further promote the transfer of skills to younger employees.

## Excellence in education and training

### JSW Steel Limited



### Developing the next generation of leaders at JSW

JSW Group considers developing the next generation of leaders as one of the key business imperatives. Therefore, it is essential to deliver its business growth strategy with a sustainable competitive advantage by nurturing and developing the critical talent within the organisation.

JSW's talent and future capability development process consists of three pillars, namely talent Identification, talent development and talent deployment. These pillars are supported by assessments and effectiveness metrics. The outcome of the process is captured in talent dashboards.

Over a period of time JSW has iterated our talent planning process to suit the challenging environment of our times. The enhancement of people knowledge and competencies has been on the anvil as a heightened priority for a few years now. Moreover, it is accepted as the key methodology to building organisational capabilities to meet current and future business needs. The process is built on 4 layers covering employee base of 8,000.

The Hi-potential framework, assessment centres, MT & GET pipeline and succession planning as processes ensure that the leadership capabilities are honed from the bottom of the pyramid right up to senior management. JSW's high potential identification process across level senior, middle and junior levels, as well as women leadership, is a highly objective, research-based process to identify true, diverse and high-potential talent.

Benchmarked against competitors, this process creates targeted, on-the-job learning experiences to drive performance impact. JSW has assessed 6,000 high performers across level and have identified 506 high potentials to date. JSW has also ensured role enhancement opportunities for the identified high potential talent across levels. Currently, 67% of high potential talent have got role expansion. Furthermore, 81% of critical roles in the succession planning are filled by high potential talent.

## Excellence in education and training

### Tata Steel Limited



### Safety standard knowledge dissemination to 30,000+ Tata Steel Limited workforce – Learn, Apply, Excel

Tata Steel Limited operates an integrated steel value chain ranging from mining, iron and steelmaking to providing products and services to customers. Hence, building a value-based safety culture among the workforce with a diversified socio-economical background is of the utmost priority. Over the years, Tata Steel has developed 87 safety standards for driving safe work practices, however the deployment of these standards was not uniform across the value chain. As such, as apex long term safety and health strategy, simplification of safety standards for effective dissemination was undertaken along with development of e-learning modules for roll-out across the company.

Using impactful visuals based on real life scenarios, storytelling and gamification, 24 prioritised highly voluminous technical safety standards have been converted into simplified documents & multilingual e-learning modules to date in FY21. These modules were mapped to all Tata Steel employees as per their role.

In the first phase, 10 of these modules were assigned to employees. 'On-the-go' mobility is ensured through Tata Steel's intranet IT portal and mobile application. Despite the limitations posed by the COVID-19 pandemic, as of 25th July 2021, 81.7% assigned modules were completed by the Tata Steel workforce, a great response. The Management Information System (MIS) is reviewed by the CEO & MD and the senior leadership team.

Over the next 2 years all 87 safety standards will be simplified and rolled out to the workforce. This unique & highly agile learning and development process, which won the Brandon Hall silver recognition, has huge market potential and can be horizontally deployed in similar industries across the world.

## Excellence in communications programmes

### WINNER: POSCO

Park1538, an innovative cultural space showcasing breakthrough technology and the ultimate beauty of steel



POSCO unveiled Park1538, a complex cultural space which encompasses exciting steel-related contents and various cultural attractions, on March 31, 2021. The name combines 'Park,' referring to the cultural space that showcases the various applications of steel, and '1538°c', the melting point of steel. With POSCO Museum and POSCO History Museum nestled at the centre, Park1538 includes the waterside park, sky bridge, and steel artworks by world-famous artists, which add finesse to steel's ultimate beauty.

Park1538 was designed with a concept of an infinite loop to symbolise the sustainability of steel, a highly versatile and infinitely reusable material that is an inseparable part of human evolution: past, present, and future. The elegant curves of the museum buildings were designed and produced by 3D engineering technologies and 446M stainless steel standing atop 100% iron frames.

The goal of Park1538 is to portray the role of steel in advancing human civilisation expressively and interactively. To do so, Park1538 showcases how steel shapes future mega trends, such as Neo Mobility, Mega City, and Eco Energy.

Park1538 is open to the public. We invite everyone from steel industry professionals to locals to come and understand the present and future values of steel which we have carefully curated. Ultimately, those who take interest in our values help shape POSCO's reputation and that of the steel industry.

Despite the coronavirus pandemic, over 10,000 visitors enjoyed Park1538 in the first four months of its opening. And its virtual experience videos on Youtube recorded 331,908 total views.

## Excellence in communications programmes

### ArcelorMittal



### *Evoluir* Programme

This initiative outlines the overall actions due to improvements at ArcelorMittal's Tubarão plant, highlighting technological innovation with app creation, online meetings with communities, internal communication process through sustainability agents, press interaction and others.

ArcelorMittal Tubarão took on a voluntary commitment in September 2018 – entering an Environmental Agreement Program (EAP) with the State of Espírito Santo Government and the State and Federal Public Ministries. In this agreement, the company has committed to immediately comply with 114 Guidelines and 131 targets over a five-year period. The targets include process improvements, the use of new technologies and the installation of new equipment for environmental control. With this commitment, the company faces two major objectives and challenges: keep the environmental agencies, government and society fully informed on environmental actions with transparency and determination; and engage employees and contractors in the compliance with all guidelines and targets.

The Evoluir Programme's main purpose is to take the environmental management to a higher level of excellence, which depends on the engagement of internal stakeholders. It is a programme that seeks to promote a sense of belonging and ownership among all actors involved. As such, effective communication with all stakeholders has proven to be extremely valuable.

## Excellence in communications programmes

### Tata Steel Limited



#### Integrated communications approach for COVID-19 preparedness and response across all operating locations

Utilising the scientific approach to predict the scenarios of the infection spread in different locations with the help of experts from the Indian Institute of Science and other medical institutes, Tata Steel evolved its communication strategies to fit to the changing landscape of the disease. Synergising with the Tata Group, taking continuous feedback from targeted stakeholders, coordinating with civic bodies and district administration and following guidelines from the Indian government and the WHO were the key communication approaches undertaken to effectively communicate throughout the period of the crisis.

Tackling the challenge through three stages of communication - awareness, engagement and reinforcement - real-time, quick & focussed communication was done in different languages through traditional and new media for maximum reach and impact to internal and external stakeholders.

Regular interactions with senior leadership and medical authorities, setting up an employee assistance helpline and organising daily reviews were some of the primary initiatives undertaken to streamline communication across the locations and address common concerns.

All these efforts have been in sync with the preparedness on the ground to ensure prompt, agile and timely communication. Setting up special COVID-19 care facilities, improving overall medical infrastructure, developing standard operating guidelines (SOPs), introducing Pod concept (self-contained working units), Suraksha card (real-time workforce tracking device), enabling IT infrastructure for 'Work from home', and deploying communication across the city were adopted to drive the 'New Normal' and behavioural changes.

Tata Steel rolled out integrated communication for communities through weekly press briefings, media stories, press releases and senior leadership interviews. These efforts were amplified through our social media communication.

Consistent, concise & correct messaging has been the key in achieving our communication objectives to tackle the spread of COVID-19 and protect our stakeholders.

## Excellence in communications programmes

### Tata Steel Limited



### TomorrowLAB

Innovation is not just the job of the innovation department. This democratisation of innovation led to the concept of TomorrowLAB, a competition conducted on a digital platform that invites pathbreaking ideas from Tata Steel Limited employees. A communication campaign to more than 10,000 employees enabled and encouraged them to form cross-functional teams to submit their ideas on pre-defined 'themes'. The shortlisted teams were mentored and their ideas made into business cases. The winning idea is being incubated.

In September 2020, Tata Steel Limited introduced a corporate rebranding campaign - #WeAlsoMakeTomorrow aka #WAMT. The objective was to alter perceptions of Tata Steel from a trusted entity known for its CSR initiatives to a corporate that is future-focused and driven by technology and innovation. The campaign did move the needle significantly on technology (by 9 percentage points) and innovation (by 8 percentage points).

For #WAMT to ring true, it could not merely be a campaign line. It had to become an integral part of Tata Steel's DNA. In order to continue to be perceived as future-focussed, it was imperative to create an innovation pipeline within the company - a marker of agility. This pipeline would also aid our efforts in the area of new materials. Furthermore, Tata Steel, being a knowledge-driven organisation, realised that there was a large knowledge bank within its employees that was waiting to be explored as business ideas by initiating conversations around innovation at all levels. To drive such conversations, a communication campaign that would act as a call to action was required. Hence the idea of TomorrowLAB was conceptualised. The idea of 'freedom to fail' was at the core of the initiative and this encouraged employees to participate and join the journey of innovation.

As part of this initiative, a communication on incubating a 'culture of innovation' within each of the 10,000+ employees across Tata Steel and its sister companies was affected, which led to participation by 182 individuals as part of 54 cross-functional teams which were mentored by the senior and top leadership throughout their journey, thereby driving meaningful conversations around innovation on all levels. An added outcome was the establishment of a pipeline of ideas that could be developed as products and solutions, one of which, with a market potential of over INR 500 crore (~USD 70 million), is in the product development phase.

## Excellence in communications programmes

### Tenaris



### Safety commitments at Tenaris yards

Safety is a value of Tenaris's culture and a fundamental factor in the relationship with its employees as well as in the development of its products. The company is constantly searching for new ways to increase safety awareness among employees, contractors, third parties and visitors. For that reason, a communications programme was launched to increase people's knowledge of Tenaris's Safety commitments when working at yards (the pipe storage areas within production sites), to minimise the risk of accidents within the company.

The programme consisted of 17 videos, disseminated through a strong communication campaign based on sharing key safety content via email (cascade communications starting from Supply Chain HSE Senior Manager), on TV screens at mills, offices and yards, WhatsApp, TenarisToday (the digital intranet of the company) and communication routines between supervisors and anyone working at the yards. As the approach was to reach the audience at a local level, the pieces were adapted to 10 different languages obtaining greater efficiency and impact (170 videos in total including the different languages), a value of Tenaris's culture and a fundamental factor in the relationship with its employees as well as in the development of its products.

The aim was to make everyone aware of the safety commitments that must be respected and encouraged when entering a Tenaris yard to reduce the risk of accidents.

## Excellence in communications programmes

### Ternium



### The soul of Mexico

In recent months, Ternium in Mexico set out to promote the importance of steel in everyone's life.

For this reason we launched the campaign "The Soul of Mexico", to show the importance of steel, its multiple uses, how is present in our daily activities, and its contribution to the growth of the local economy.

A spot was produced for digital media with a message inviting us to reflect and acknowledge that what we do at Ternium goes way beyond than just steel.

In the same year, and in-keeping with the slogan "The Soul of Mexico" - we launched a new campaign - "The Pride of Mexico" - Where, from the Ternium Community Hospital in Monterrey, Ternium sent a message of recognition and good will to all the medical personnel in Mexico for their effort and dedication during the pandemic.

World Steel Association

Avenue de Tervueren 270  
1150 Brussels  
Belgium

T: +32 (0) 2 702 89 00  
F: +32 (0) 2 702 88 99  
E: [steel@worldsteel.org](mailto:steel@worldsteel.org)

C413 Office Building  
Beijing Lufthansa Center  
50 Liangmaqiao Road  
Chaoyang District  
Beijing 100125  
China

T : +86 10 6464 6733  
F : +86 10 6468 0728  
E : [china@worldsteel.org](mailto:china@worldsteel.org)

[worldsteel.org](http://worldsteel.org)



Printed on FSC certified paper

**worldsteel**  
A S S O C I A T I O N