

worldsteel

A S S O C I A T I O N

STEELIE AWARDS 2018



Innovation of
2018

Worldsteel
ASSOCIATION

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 2018 Steelie Awards will be announced during the worldsteel Annual Dinner in Tokyo, Japan on Tuesday, 16 October.



Nominations overview

Excellence in digital communications

JSW Steel Limited
POSCO
Tata Steel Limited
Tenaris
Temium

Innovation of the year

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China Baowu Steel Group Corporation Limited
HBIS Group Co., Ltd.
POSCO

Rotoforgia innovative project
Controlled cooling technology for online control of hot-rolled steel microstructure
Clean vanadium production process
Lightweight high strength exposed panel DP steel development technology

Excellence in sustainability

ArcelorMittal Brazil
ArcelorMittal Europe
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Water Master Plan
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Using waste heat of BF slag washing water for urban heating in Winter
Reducing supply chain carbon footprint

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LCA studies recycling allocation methodology with regard to elasticity of scrap
Use of LCA in green steel solution
Use of Environmental Product Declaration (EPD) tools for the construction sector
Use of LCA in development of Mix Rock ®

Nominations overview

Excellence in education and training

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JSW Steel Limited
Novolipetsk Steel (NLMK Group)
Tata Steel Europe
Tenaris
TMK (PAO)

Action learning programme for reducing loss and increasing profit
Springboard – Development of diverse leadership pipeline
Safety culture leadership
Product and process fundamentals
Human resources focus on safety
Virtual Trainer Simulator - Trainer simulator of TPA 159-426 pipe-rolling unit

Journalist of the year

Maytaal Angel
Chris Davis
Diana Kinch
Hongmei Li

Reuters
S&P Global Platts
S&P Global Platts
Mysteel Global

Excellence in communications programmes

ArcelorMittal
Novolipetsk Steel (NLMK Group)
Tata Steel Limited
Ternium

Stelligence® - The intelligent construction choice
#NLMKPro
#DoorsofIndia - A journey by Pravesh
"Si viene en lata es bueno" (Good things come in steel packages)

Excellence in digital communications

JSW Steel Limited



POSCO



Tata Steel Limited



Tenaris



Ternium





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Innovation of the year

Rotoforgia innovative project

Acciaierie Bertoli Safau s.P.a

The new Rotoforge (RF) installed at ABS' "Linea Marte" facility is a prototype, the first in the world, and promises to revolutionise production of forged products through introduction of a continuous production process while overcoming the traditional limitations of rolling and forging. It involves use of a series of continuous technologies in addition to the RF, such as a new walking beam furnace and a new cutting section for continuous operation.

Rotoforgia is a hybrid, which has a similar production process and characteristics to a rolling mill through the use of a forge, as it exerts much greater mechanical pressure on the individual pieces than those exercisable by classic rolling mills, ensuring internal health characteristics of steel at par with forged products.

Traditional hot-rolled mills achieve a maximum reduction per rolling pass of only about 60-70 mm, for each transit of the charge on the section with opposed cylinders (lacking however, optimal homogeneity in the heart of the piece).

Rotoforgia allows a higher reduction per rolling pass – up to 200 mm for each transit. The use of large rolls and the consequent reduction of feeding angles allows for a reduction in the number of rolling passes required even for heavier starting products, thereby improving productivity. Overall, central health internal soundness, commonly measured using ultrasound methods and expressed in FBH (flat bottom hole) of the Rotoforging process is close to 2 mm, typical of forged products. In comparison, rolled products settle at values of around 10 mm FBH.



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Innovation of the year

Controlled cooling technology for online control of hot-rolled steel microstructure

China Baowu Steel Group Corporation Limited

Controlled cooling technology is an effective means for online control of hot-rolled steel microstructure. However, in the field of hot-rolled seamless steel tubes, due to the characteristics of the circular section of steel tubes, high-strength homogenisation cooling technology had until recently not yet been effectively developed.

Baosteel has successively solved a series of technical problems and has developed the first set of industrialised equipment that can achieve precise temperature control. It was put into production in April 2016. In addition to this, Baosteel has developed TMCP-F/B/M technology for hot-rolled seamless steel tubes. This technology effectively solves the problem of low performance of the rolled-state medium-thickness structural tube and removes the need for offline heat treatment.

Baosteel has successfully brought about the large-scale production of hot-rolled seamless steel tubes exceeding 150,000 tonnes with its on-line controlled cooling technology. The performance qualification rate of the rolled-state product has increased from less than 50% to over 98%, which greatly reduces the cost of additional heat treatment and the energy consumption per tonne of steel produced.

The technology was first developed in Baosteel's 460 hot rolling mill and is currently being expanded to 140 units. The follow-up plan is to promote to the accroll unit and external units.



STEELIE AWARDS 2018

Innovation of the year

Clean vanadium production process

HBIS Group Co., Ltd.

The typical method of extracting vanadium from vanadium slag is sodium salt roasting followed by water leaching and ammonium precipitation. HBIS has developed a novel liquid oxidation process that has clear advantages in comparison to this typical method:

- **Clean:** Zero emissions of gas, water and residue. The leaching of vanadium avoids generation of toxic kiln gases and the leaching solutions can be completely recycled, avoiding the generation of waste water. Leaching residue can be recycled in conjunction with the iron and steel making process, avoiding discharge of solid waste
- **Efficient:** Vanadium and chromium can be produced from one process and extraction rates can reach up to 90% and 80%, an increase of 10% and 80% respectively, a significant improvement in recovery efficiency
- **Cost effective:** Compared with the traditional sodium roasting method, the operation temperature in this new process drops from 750-850°C to below 200°C, a significant energy saving. The increase of vanadium recovery, as well as the recovery of chromium, provides additional financial benefits

On 12th June 2017, the world's first demonstrating production line, treating 50,000 tonnes of vanadium slag annually was established at HBIS Group ChengSteel, China.

The Chinese Steel and Iron Association (CISA) recognised this project as one of the leading technologies of Chinese steel and iron making industries in 2017. Furthermore, the Ministry of Industry and Information Technology (MIIT) has listed this project as one of its 2017 "Green Production Projects".



Innovation of the year

Lightweight high strength exposed panel DP steel development technology

POSCO

Aluminium is one of conventional steel's arch competitors for automotive exposed panels due to its high strength to weight ratio and good formability. Up to now, bake-hardenable (BH) steel sheets with 340 MPa tensile strength have generally been used for exposed automotive panels such as doors and hoods and were among the best.

POSCO has successfully developed a new bake-hardenable sheet steel with 490 MPa with a dual phase microstructure (ferrite and martensite). Not only does this newly developed steel have superior mechanical properties such as tensile strength, BH value, non-ageing phenomena, and dent-resistance, but it also has a thinner gauge (0.55~0.65 mmt) than conventional BH steels (0.7~0.8 mmt).

To summarise, the newly developed steel grade has the following advantages:

- Thinner thickness by strengthening of steel sheets through appropriate distribution of martensitic islands in ferrite matrix leading to over 7% in weight reduction
- Superior dent-resistance of over 18% compared to that of conventional BH steels due to an increase in yield strength after the paint baking process.
- Microstructure, mechanical properties, press-formability, and surface quality
- Less than 500 ppm carbon to have coarse ferrite and fine dispersion of fine martensitic
- Microstructure giving desired yield strength and elongation properties
- Elongation improvement of about 7% through reduction of martensite size and fraction, uniformity of grain boundary distribution of martensitic islands, inhibition of bainite formation, and control of ferrite fraction and size coarsening.

Excellence in sustainability

Water Master Plan

ArcelorMittal Brazil

ArcelorMittal Brazil has developed and successfully implemented a holistic approach to water management called the Water Master Plan (WMP). The company has a production capacity of over 11 million tonnes of crude steel per year from steel plants located in the Brazilian states of São Paulo, Minas Gerais, Santa Catarina and Espírito Santo.

Faced with changes in water availability, the goal was to ensure the continuity of industrial operations while simultaneously reducing the impact on local river basins. The WMP, established in 2014, is a three-pronged approach involving diversifying its water sources. To reduce dependence and impact on a single water source the plan looks at the viability of alternative sources including groundwater, rainwater, seawater, recycled water and wastewater. It also involves improving water efficiency through reduction in water consumption and increased water reuse and recirculation, as well as engaging their stakeholders on water-related issues both internally and amongst the local community.

The implementation of the WMP has resulted in substantial improvements in ArcelorMittal Brazil's water management indicators including a reduction in specific water consumption by 34.4% (3.43 m³/t crude steel in 2014 to 2.25 m³/t crude steel in 2017), a reduction in water intake by more than 6,000,000 m³/year, despite a 17% increase in production (base-year 2014, which translates to a volume equivalent to the annual supply of a town of approximately 82,000 inhabitants, considering a per capita consumption of 200 l/day) and increased water recirculation (97% in 2014 and 98% in 2017).

These efforts are helping ArcelorMittal to achieve their sustainability goals - "Global Outcome #5" to be a trusted user of air, land and water – as well as the UN SDG #6 - which aims "to ensure water availability and sustainable management of fresh water to all and everyone".

Excellence in sustainability

Construction of the new recuperated heat network of Saint Chély d'Apcher

ArcelorMittal Europe

The construction of the new recuperated heat network of Saint Chély d'Apcher began in 2015 and was officially inaugurated in 2018. This new heat recovery system takes advantage of co-product heat (above 1,000°C), which is produced during the cooling stage of the steelmaking process.

What used to be "waste" heat is now being recuperated for use both internally, to heat the halls of the steel plant, and distributed around the town. The new system produces 12GWh (equivalent to heating 1,150 homes) and provides heat for 55 buildings including the local swimming pool, hospital, schools, houses, and shops via the 4.5km pipe network.

Since the implementation of the project, Saint Chély's fossil fuel contribution to the total energy mix has decreased from 10% to 3%, while the energy consumption and related costs of the ArcelorMittal plant decreased by more than 10%, and by 1% respectively. This resulted in the reduction of the carbon footprint of both the plant and the town by more than 4,000 tonnes of CO₂ per year, equivalent to taking 2,000 vehicles off the road.

This new investment of 5.6m euro, representing 30,000 hours of work, is a joint project of ArcelorMittal, RESC, Schneider Electric, and Scabe, and was supported by public funds from Ademe, Occitanie Region, and Kyotherm.

This system provides a real environmental asset, a lever of local economic development, and an advantage in the sustainable planning of the territory. The abandonment of fossil fuels in favour of renewable energies, particularly bio-mass paves the way towards energy independence for the town and territory.





STEELIE AWARDS 2018

Excellence in sustainability

Using waste heat of BF slag washing water for urban heating in Winter

HBIS Group Co., Ltd.

Hansteel Company, located on the edge of Handan city in China, has also developed a technology that allows it to utilise and distribute “waste” heat from its operations to heat 5.5 million square meters of building space for Handan residents during winter, reducing the use of small coal burning boilers in Handan City, and reducing local air emissions.

The technology and special filtering process required to utilise waste heat from their blast furnace slag washing operation was developed together with the Yiweikun Energy Saving Company and the University of Science and Technology Beijing. The project was initiated by HBIS Hansteel in cooperation with the Handan government, which invested about 520 million CNY for the project. The Handan government now purchases heating power from Hansteel every year.

This project has enabled the company to avoid the use 81,300 tonnes of coal per year, reducing 202,681 tonnes of CO₂ emissions, 81,641 tonnes of dust, 6,097 tonnes of SO₂ and 3,049 tonnes of NOx. In addition, the company saved a total 83,780,000 CNY by avoiding the use of coal and selling the heating power to the Handan government. For the local community, the project positively contributed to urban air control, haze prevention and reduction of harmful gas emissions.

This project has been promoted to other steelmaking plants in the HBIS Group: Tangsteel, Xuansteel, Wusteel and Shisteel. It is estimated that it will save 130,000 tonnes of standard coal across these plants, about 1.6 times more than that is saved by Hansteel.

Excellence in sustainability

Reducing Supply Chain Carbon Footprint

Tata Steel Limited

Tata Steel Limited's (TSL) shipping and logistics team initiated a project to reduce the GHG emissions from shipping operations by increasingly deploying energy efficient vessels for ocean transportation that carry its raw materials and finished products.

As a first step, TSL calculated the CO₂ emissions of their existing vessels and found that 3.90 grams of CO₂ per tonne/nautical mile were being emitted (compared to the global average of 10.9 grams of CO₂ per ton nautical mile). They also established that 87.7% of their vessels were energy efficient, according to measures established by the International Maritime Organization (IMO). Using these figures as a baseline, they established targets to reduce these emissions by 5% in FY19 and by 10% in FY20. They have also set a target to ensure 90% of their vessels are energy efficient by FY20.

Given TSL's growth strategy, vessels under operations are expected to go up from 200 to 500 by 2025. While the implementation of the initiative will result in an increase in transportation costs of around 3.5 %, it is set to reduce CO₂ emissions by 64% by 2025. Despite the increase in costs, the replicability of this initiative within and across different sectors presents an excellent opportunity to reduce the carbon footprint of their supply chains.



Excellence in Life Cycle Assessment

Use of LCA to support the Stelignce® project

ArcelorMittal

ArcelorMittal has unveiled Stelignce®, a radical new concept for the use of steel in construction, which will facilitate the next generation of high performance buildings and construction techniques thereby creating more sustainable buildings.

The ArcelorMittal Stelignce® project has developed a robust and objective assessment methodology for comparing building construction options for any type of building with respect to their impacts on environmental, economic, and social sustainability. A total of 17 key performance indicators (KPIs) from Life Cycle Assessment, Life Cycle Costing and Social impact assessment as well as from building rating schemes such as BREEAM and LEED are included in the tool. Life Cycle Assessment is integrated in a systematic way – along with social and economic aspects – into a sustainability tool within the Stelignce® project to promote building eco-design based on the needs of different players in the construction field (developers, architects, contractors, engineers). Different solutions for each component of a building can be modelled and the best building according to the priorities set by the user is automatically designed.

An LCA tool was developed by ArcelorMittal Sustainability R&D to compare and optimise the environmental performance of building construction alternatives. It is fully compliant with the EN 15798 standard; it includes over 50 construction material options and is parameterised to account for eco-design principles. The outcome of the LCA tool is then translated into KPIs which are used by Stelignce® for a full sustainability assessment.

The Stelignce® project facilitates eco-design of buildings and building components through a customer-focused co-engineering approach. The Stelignce® project highlights steel's role as a sustainable material and the material of choice for the construction industry.



Excellence in Life Cycle Assessment

LCA studies recycling allocation methodology with regard to elasticity of scrap

ArcelorMittal Europe

The choice of how to allocate recycling credits and burdens in LCA studies has been a protracted debate in our industry for many years as it significantly impacts the environmental footprint results of most steel products. The difference in the results depends on whether the recycling credits and burdens are allocated to the system of the scrap producer, the scrap consumer or shared (e.g. split 50/50) between the two of them.

With the growing role of LCA in shaping the regulatory framework, an insight in the current and future behaviour of the scrap market is a key factor in selecting either of the approaches. Thus, academic research has been devoted to studying whether the uptake of ferrous scrap is driven by limitations on the supply or demand side.

ArcelorMittal has recently released a study titled *Tracing scrap flows in the global steel production optimization model*, which makes an important contribution to better forecast the behaviour of the global scrap market. With the ability to incorporate regional differences and quality of available scrap, this economic model forecasts local scrap consumption.

The study finds a supply driven market for ferrous scrap over a horizon of more than 50 years, thus supporting the worldsteel LCA methodology and the value it allocates to scrap recycled at end-of-life. It further pinpoints the quality of ferrous scrap as the most critical issue to sustain similar consumption of all emerging scrap.



Excellence in Life Cycle Assessment

Use of LCA in green steel solution

China Baowu Steel Group Corporation Limited

Baowu has developed an eco-design model that can convert different design parameters into environmental parameters and use the Baowu Product Environmental Index (BPEI) to comprehensively evaluate product environmental performance. The model is used for the eco-design of automotive parts, silicon steel products, and home appliances. This model has been used for the Baowu body car (BCB 1.0 plus) project on a LCA basis. Baowu was awarded the "Green Benchmarking Enterprise" for automotive materials issued by the automotive industry in China, where LCA plays an important role.

Baowu also cooperated with 8 suppliers in five industries (refractory materials, lubricating grease, etc.) and 27 users in eight downstream industries (automobiles, home appliances, electric power, etc.) to promote green steel solutions along the entire value chain.

The Baowu LCA projects brought about an energy saving and cost reduction benefit of 18.22 million yuan across the whole manufacturing chain, and green steel services for users brought a sales increase of 475 million yuan. Baowu's green products, which are defined by BPEI, increased revenue by 6.4 billion yuan due to green label sales in 2015-2017, and reduced CO₂ emissions by more than 15 million tonnes. The social benefits of CO₂ emissions reduction exceeded 450 million yuan.



Excellence in Life Cycle Assessment

Use of Environmental Product Declaration (EPD) tools for the construction sector

Tata Steel Europe

In the construction sector, Environmental Product Declarations (EPDs) have become an established means of communicating the environmental credentials of construction materials. In many cases, the current EPDs in the market represent average information for a group of products produced at a number of different production sites. There can therefore be considerable variability in environmental performance due to the range of differing product specifications and manufacturing locations.

The variability in environmental performance is particularly pronounced for complex product groups, such as cladding systems for buildings. In this particular product group, there is an extremely wide range of product specifications leading to considerable variability in the life cycle impact assessment values per metre squared of cladding. In some instances, this variability can be more than 50%.

Tata Steel Europe has developed an EPD tool for a number of different cladding systems, which provides environmental data to generate an EPD, and which is able to account for a particular product specification, whether that be an international standard or a bespoke customer specification. The development of the EPD tool was successfully achieved by utilising the capability of LCA software combined with extensive data collection across the supply chain. The current EPD tool covers the manufacture of organic coated steel produced in the UK, which is subsequently fabricated into cladding systems either by Tata Steel or an external company at one of our supply chain partner sites in Europe. The project involved the development of an LCA model and tool, which has the capability to produce product, manufacturer and specification specific EPDs on demand.



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Excellence in Life Cycle Assessment

Use of LCA in development of Mix Rock®

Ternium Mexico, S.A. de C.V.

Ternium Mexico has developed Mix Rock®, a new product for the cement industry made from steel industry co-products and residues, particularly from the DRI – EAF route (direct reduction of iron – electric arc furnace route). The development of this product minimises steel residues - 100% of EAF dust is used - and enhances the sustainable use of natural resources based on the optimisation in the use of raw materials for cement production.

LCA studies carried out in both industries identified an opportunity for enhanced cooperation. The use of Mix Rock®, interconnects the lifecycles of two products and reduces the environmental impact and consumption of natural resources in both industries. The substitution of iron ore with Mix Rock® in clinker manufacturing has the potential to reduce iron ore extraction by 290,000 to 4.8 million tonnes/year, depending on the iron ore content required for manufacturing the different types of cement, according to the ASTM C150/C150M-18 regulation in Mexico.

Excellence in education and training

Action learning programme for reducing loss and increasing profit

China Baowu Steel Group Corporation Limited

From 2016 to 2018, China Baowu Group launched management innovation activities to cut down the number of loss-making subsidiaries by improving managerial skills inside the group.

Facing the fact that 25% of China Baowu's subsidiaries lost money, a policy was implemented which required that companies operating in the red make profits or be shut down, and assessment and encouragement policy for the lost companies and their leaders were issued and a tailored action learning program was held.

The fifteen-month action learning programme focused on the trouble and difficulty in their operating practice and resulted in the proportion of subsidiaries making a loss falling to 18%.

Excellence in education and training

Springboard – Development of diverse leadership pipeline

JSW Steel Limited

With an intention to build our leadership pipeline with exceptional female talent and to address the challenges they face, we at JSW launched an initiative called Springboard. As the name suggests, we used the programme to support our women and propel their career growth and position across JSW through training and education. The umbrella programme is a comprehensive, relevant and scalable framework, diverting resources towards recruitment and development of women employees through different modes of learning, both offline and virtual.

The women leadership journey is a three-pronged approach, which includes:

- Career conversations - Need gap assessment as against the potential indicators
- Comprehensive learning architecture - Various leadership development programmes
- Building a sustainable culture to support and advance growth of women at JSW

Through career conversations with around 220 women the company discovered the importance of providing support and encouraging professional growth. The session served as a need gap analysis to chalk out a detailed female development programme.

Development centres were conducted in batches for 90 high performers, assessing their areas of potential and growth. Based on the findings from these sessions, all participants undergo training in growth areas in partnership with an institution of national importance, the Indian Institution of Management, Bangalore. Training modules on the areas of leadership, business and personal excellence are curated jointly with the findings from the development centres and data is gathered through interaction with various stakeholders - business heads, managers and participants.





STEELIE AWARDS 2018

Excellence in education and training

Safety Culture Leadership

Novolipetsk Steel (NLMK Group)

The purpose of the two day safety culture leadership programme is to create a unified level of NLMK group managers' maturity and awareness in safety in order to strengthen NLMK safety culture.

The objectives of the programme are to familiarise managers with the safety culture behaviour standards, increase managers' personal commitment to safety, engage managers in hazard identification and risk management processes, develop skills to identify and respond to unsafe conditions and unsafe behaviours of co-workers and to build a proactive corporate safety culture.

The first day of the programme, based on face-to-face training, involved specific session on the role of managers in safety culture formation and development and safety leadership behaviour.

The second day, a "Search for Safety" workshop, involves practical work on hazard identification on-site and developing hazard elimination and risk reduction measures.

The content of the programme is based on the best global and NLMK Group practices. The programme provides different ways of self-training including 1) an e-learning course on general safety requirements in the metallurgical industry, 16 corporate films and a library of books and articles on safety.

Excellence in education and training

Product and process fundamentals

Tata Steel Europe

This entry showcases an innovative new learning platform that offers a fundamental alternative to traditional means of knowledge learning. In Tata Steel, we are seeking to encourage our people to take greater responsibility for their own learning. To achieve this we have worked with a technology partner to create a platform that is both accessible, engaging and gamified. In this way we cater for changing needs through spaced repetition learning that is accessible any time, any place, anywhere.

Our launch programme is focussed on product and process knowledge. It went live in June 2018 to around 150 commercial staff. Additional pilot users were recruited to assess the learning method for extension to new knowledge areas. The platform is populated with an extensive catalogue of source materials that would otherwise have formed the basis of more traditional methods of learning. It supports both learning and subsequent reference activity.

Initial feedback, 11 weeks into to a 40-week learning journey for participants is extremely encouraging. We are extremely excited about the platform concept. For a diverse, geographically spread workforce the platform offers significant cost and practical advantages over the traditional mix of learning. But more significantly, it is the very nature of the continuous learning, at 5 minutes a day with the challenge to put your know-how to the test that is so exciting.



MANTÉNGASE SEGURO CUANDO TRABAJA EN ALTURA

Use su sentido común. El entrenamiento adecuado y las técnicas preventivas son vitales cuando se trabaja en altura.

10 INSTRUCCIONES PRÁCTICAS PARA TRABAJO EN ALTURA

 <p>Identificar peligros potenciales, evaluar el riesgo, mitigar cada peligro antes de trabajar en altura</p>	 <p>Sólo debe permitirse el trabajo en altura a las personas entrenadas y autorizadas</p>
 <p>Las vallas de contención deben ser construidas alrededor de cada área elevada de trabajo</p>	 <p>Los elementos móviles de elevación tales como alza-hombres deben estar en buenas condiciones e inspeccionados regularmente</p>
 <p>Los andamios deben ser provistos con barandas, pisos completos, tablas rodapiés y escaleras montadas internamente</p>	 <p>Las escaleras deben estar aseguradas y utilizadas sólo para los medios de acceso</p>
 <p>Antes de trabajar en techos, revisar las partes frágiles del techo, aberturas o bordes no protegidos y los puntos de acceso seguros</p>	 <p>Debe ser utilizado un arnés de cuerpo completo con cuerdas de amarre y siempre unidos a un punto seguro de anclaje</p>
 <p>Debe ser provisto entrenamiento en el uso del equipo de protección personal</p>	 <p>Un plan de rescate de caídas y el equipamiento correspondiente deben estar listos y ubicados en el momento del trabajo en altura</p>



STEELIE AWARDS 2018

Excellence in education and training

Human resources focus on safety

Tenaris

A sudden growth in the oil country tubular goods (OCTG) market in 2017 led to a large increase of shop floor employees (SFEs) in Tenaris mills around the world.

Tenaris' mills had to increase their production to pre-crisis levels, restarting facilities that had been closed during the oil crisis. 4,500 new SFEs started new jobs in Tenaris. During this time, preventing accidents due to lack of experience became a top priority to ensure high safety standards. From recruiting tools, to HSE training methodologies and content, human resources focussed on safety throughout the whole process.

All these actions proved to have a positive impact on the Lost Time Injury Frequency Rate (LTIFR) and Major Injury Frequency Rate (MIFR) of newly hired SFEs.

Excellence in education and training

Virtual Trainer Simulator - Trainer simulator of TPA 159-426 pipe-rolling unit

TMK (PAO)



TMK2U Corporate University, together with Volzhsky Pipe Plant, launched a software and hardware complex called “trainer-simulator of TPA 159–426 pipe-rolling unit” in July 2018. This is a global educational project that allows the university to train employees, upgrade their skills and simulate the main technological processes without leaving the training laboratory. Roller operators, general operators, mechanics, electricians, engineers and process engineers can study the arrangement and design of the TPA 159–426 pipe-rolling units and its technological process.

During the simulator training employees make processing method calculations. They practise their skills, create and archive technical and technological documentation and learn how to react to and prevent emergency situations.

The training includes three subunits. The first, equipment design, allows for the study of mills and units with the help of 3D models, drawings, sketches and kinematic schemes. The second subunit is control unit design and the third is technological processes.

The simulator has four modes: demonstration, training, tests and background material. It offers training on a variety of subjects including metal deformation processes, metallurgical equipment, simulation of metallurgical processes, and job training of roller operators and electricians and mechanics in the pipe-rolling shop.



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Journalist of the year

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Excellence in communications programmes

Steligence® - The intelligent construction choice

ArcelorMittal

In June 2018 ArcelorMittal launched Steligence®, a radical new concept for the use of steel in construction in Europe, which will facilitate the next generation of high performance buildings and construction techniques and create a more sustainable life-cycle for buildings.

Steligence® is a philosophy, backed by science – every aspect of it is based on peer-reviewed, independent scientific research. It enables the construction community to analyse the social, economic and environmental impacts of diverse building options, maximise the use of intelligent materials (such as steel) and develop a building of complementary parts. It also offers a range of products that materially help solve the competing demands of creativity, flexibility, sustainability and economics that modern construction presents.

Steligence® is a disruptor brand for the construction industry. To ensure it was understood and adopted by the industry long-term it needed a clear brand and communications strategy, aimed not just at customers, but also at influencers within the industry.

Central to this was the development and trademarking of a compelling brand name – Steligence®. The name co-exists with an explanatory strapline: 'the intelligent construction choice', and a supporting visual identity.

Core brand and marketing assets were created to communicate the benefits of Steligence® - messaging, photography, videos, a brochure and poster, website, advertising templates and a 3D virtual reality model of a 'Steligence®' building. These all came together on June 19 2018 at a launch event at Rogers and Stirk's iconic steel 'Cheesegrater' tower in the City of London.

A multi-stakeholder, multi-channel communications plan was developed and put in place to cover activity pre, during and post launch – covering internal communications, media relations, social media and advertising.

Excellence in communications programmes

#NLMKPro

Novolipetsk Steel (NLMK Group)

NLMK Russia Long made 35 videos dedicated to key steelmaking professions as part of its vocational guidance programme. They decided that it was the most visual and engaging way of letting young people in on the peculiarities of work at the division's production facilities, but the other sites picked up on this idea, also eager to tell the world about their professions and - more importantly - their professionals.

Since 2016 over 100 videos have been made about different steelmaking professions.

The filming is not over, and the project goes on. What started off as a series of videos for students will grow to become an extensive video-library of steelmaking professions that we will be able to share with the entire world.

No special effects, no elaborate scripts or guest celebrities: only true professionals doing their everyday work.



STEELIE AWARDS 2018

Excellence in communications programmes

#DoorsofIndia - A journey by Pravesh

Tata Steel Limited

Tata Steel has introduced a new offering in the unbranded door market: Pravesh – steel doors with a wood finish. The need for such doors came from research which showed that, in addition to beauty, people wanted strength in their doors, but found that no such option existed.

The intent of the team was therefore to make people understand the unique proposition of strength and beauty offered by Pravesh, and to create conversations around doors.

#DoorsOfIndia by Pravesh was a one-of-its-kind on-road journey that passed through the diaspora of Indian geography, curating stories of 40 prominent doors in different architectural styles. It covered more than 30,000 km across 46 cities in 15 states over a period of 5 months. A unique discovery in the true sense, this campaign comprised of 6 explorers (travel bloggers) who embarked on a journey covering 6 different regions of India, curating doors of various kinds. These curated door stories were published almost in real-time on the dedicated microsite - www.doorsofindia.com - along with social media amplification across Facebook, Twitter, Instagram and YouTube. This digital campaign was also supported by mainstream media, including print, out-of-home advertising and below the line activities.

Excellence in communications programmes

“Si viene en lata es bueno” (Good things come in steel packages)

Ternium

Ternium, as an industrial leader in the production of steel in America, continuously seeks to enhance the positioning of steel in the different market segments.

In Argentina, although steel food packages have a high acceptance among consumers they have always been associated with different myths and mistaken beliefs that harm their positioning. In addition to this, in recent years, competition with other packaging (TetraPack, glass, plastic) has been growing and steel's market share has been declining.

As the main tinplate producer in Argentina, Ternium decided to take action to improve consumer awareness and strengthen steel's market position.

Together with our clients, we developed a 100% digital campaign aimed at younger audiences, who value good food, the importance of recyclability and who lead a healthy lifestyle.

As we say it, good things come in steel packages.



worldsteel

A S S O C I A T I O N