Corporate brochure

Heavy industries

Engineering
that excites

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Up for every challenge

We are Iv. We are Engineers. Engineers dedicated to solving the most complex issues. The greatest challenges of our time. Our specialists devise solutions for the energy transition, the effects of climate change and to ensure a safe and resilient society. We design offshore wind platforms, submarines, and the world's largest lock complexes. Essentially, we design anything that requires a high level of technical expertise and multidisciplinary knowledge. The diversity of our work is unmatched by any other engineering company, and we deliver results that genuinely benefit society. This is what we call: Engineering that excites.

Iv has been developing solutions for heavy industry since 1949. We have a unique and versatile knowledge of this type of industry, from raw material intake to finished product, processes and production installations to raw material recovery and scrap handling. We understand the chain from A to Z and have expertise in all technical facets.

1949
Year of foundation

14
Offices worldwide

+1400
Employees

56
Nationalities

183
Million euros turnover

Making heavy industry green and sustainable

We are surrounded by steel. From cars, ships and trains to buildings and products such as batteries and refrigerators. It is hard to imagine life without this material. While steel underpins our daily lives, it also poses a serious challenge. The entire steel production chain, from the extraction of raw materials to the manufacture of steel products, emits large amounts of CO2. The question is: how can we make steel without further damaging our planet? This is where Iv comes in. Iv offers support to producers throughout the entire chain to make their future production greener and more sustainable. Moreover, Iv is helping to accelerate this necessary transition.

Why is heavy industry under pressure to become greener?

Significant amounts of CO_2 are emitted throughout the chain within the heavy industry sector, mainly because traditional parts of heavy industry, such as the steel production process, use a Blast Furnace coupled with a Basic Oxygen Furnace, which emits large amounts of CO_2 and other emissions and is very energy intensive. Stricter EU emission targets and ever-increasing customer demands are forcing steel producers to adapt their processes on a large scale. Yet at the same time, they must also guarantee quality. This applies to steel producers and the entire heavy industry chain. These are significant challenges because the new processes are not yet capable of producing the quality and quantities that the existing processes have achieved. The industry is having to invest a lot of money and time in advanced technologies to meet legislation and societal expectations. The biggest challenge? Meeting the new emission requirements, such as reducing CO_2 emissions, without compromising quality and production volumes.

The problem continues to grow as people consume three times as much as ther did fifty years ago.

Rick de Jong, director of Heavy Industries at Iv, explains: "Steel itself is a very sustainable product because it is 100% and infinitely recyclable. It can be used again and again while retaining its properties, original quality, and strength. Steel is, therefore, one of the most widely used materials in the world due to its versatility and relatively low cost. But the problem lies in the production process. Iron ore is mined

from the ground and converted into liquid iron in a Blast Furnace. During this process, iron ore, coke, and limestone are combined with oxygen, emitting large amounts of CO_2. In addition, the unique properties of steel make it difficult to replace on a one-to-one basis with alternative materials. Steel is extremely strong and versatile, making it a material for countless applications, which means that even if alternative materials were used, much larger quantities of the substitute material would be needed to achieve the same properties, which may not necessarily reduce the environmental impact. It is therefore imperative to find new and sustainable ways of producing steel that have less impact on the environment and retain the unique properties of steel."

Key role

It is clear: heavy industry needs to become more sustainable and greener. Iv plays a key role in today's quest for this higher level of sustainability. How? Iv offers heavy industry support to accelerate its sustainability and greening journey. Rick: "Our approach is twofold. We need to adjust the existing process now to deliver immediate results while focusing on the near future. Despite having already made the industry greener in certain areas, the problem continues to grow as people consume three times as much as they did fifty years ago."

Iv's strength lies in its knowledge and experience of process optimisation. "We fully understand how it works in practice and where it needs to go. On paper, processes always seem to be perfectly designed and working, but in reality, it can often take years before everything is properly aligned and the desired results are delivered. We have served the steel industry since our founding 75 years ago (1949). Our practical knowledge and experience, combined with a pragmatic approach, helps our clients to optimise their processes effectively." Iv's experience spans not only the steel industry but also other sectors, such as manufacturing and energy. Despite the differences between these sectors, the approach to sustainability is often similar. Such knowledge enables us to offer customised

solutions that make current processes more sustainable and integrate future innovations.

Reuse, remanufacturing and recycling will become increasingly important in the future.

In addition to over 75 years of knowledge and experience in heavy industry, Iv has worked on large-scale sustainability, emission reduction and greening projects in the industrial sector worldwide for the past ten years. This cache of experience has given Iv a unique lead in plant design and systems integration of future-proof and 'green' installations and production facilities.

Making the entire chain more sustainable

Steel production involves several steps to first make iron and then steel from iron ore. The steel produced is often further processed into beams and coils for the next stage of production. Besides steel production, there is much to be done both upstream and downstream in the process. Iv has experience in all parts of this chain.

Making heavy industry more sustainable starts at the bottom: the extraction of raw materials, a process which is often environmentally damaging. Many harmful emissions are released during the extraction of raw materials in mines and during storage and handling. In recent years, a lot of time and energy has been spent on improving this step, and we are leading the way in Europe. "In the future, coal will gradually give way to hydrogen. This will help to reduce CO_2 emissions significantly", says Rick. In this process transition, new installations such as a Direct Reduced Iron (DRI) plant linked to an Electric Arc Furnace (EAF) will initially run on gas and electricity generated from wind power. Once these processes work well, the second stage will be moving to hydrogen.

Iv has unique experience in DRI production in the form of HBI (Hot Briquetted Iron) and everything that goes with it. A DRI plant is in operation in Texas, for which Iv has optimised both the primary production process and the secondary process, such as screening, storage and handling.

In the context of sustainability, Iv is also engaged in the reuse of steel. Reuse, remanufacturing, and recycling will become increasingly important in the future. Following the so-called use phase of steel products, such as refrigerators, the steel is collected and prepared for reuse. This process involves the removal of zinc, paint coatings and other materials before the steel can be reprocessed. As early as 1999, Iv was already playing a pivotal role in the removal of zinc from steel that was released as a residual and waste material during the stamping of vehicle body parts in the automotive industry.

In short, whether it is about optimising production processes or improving the logistical periphery around installations and raw materials: "We help design factories so that raw materials can be delivered efficiently and without emissions, reducing the need for transport. This reduces energy consumption and pollution, which directly contributes to a cleaner world", says Rick.

Closing factories is not the answer; we need to invest in making them more sustainable.

Future perspective

The world of materials, technologies and production methods has changed rapidly in recent years; a hundred years ago, there were no plastics, carbon fibres or 3D printable materials. What seemed impossible

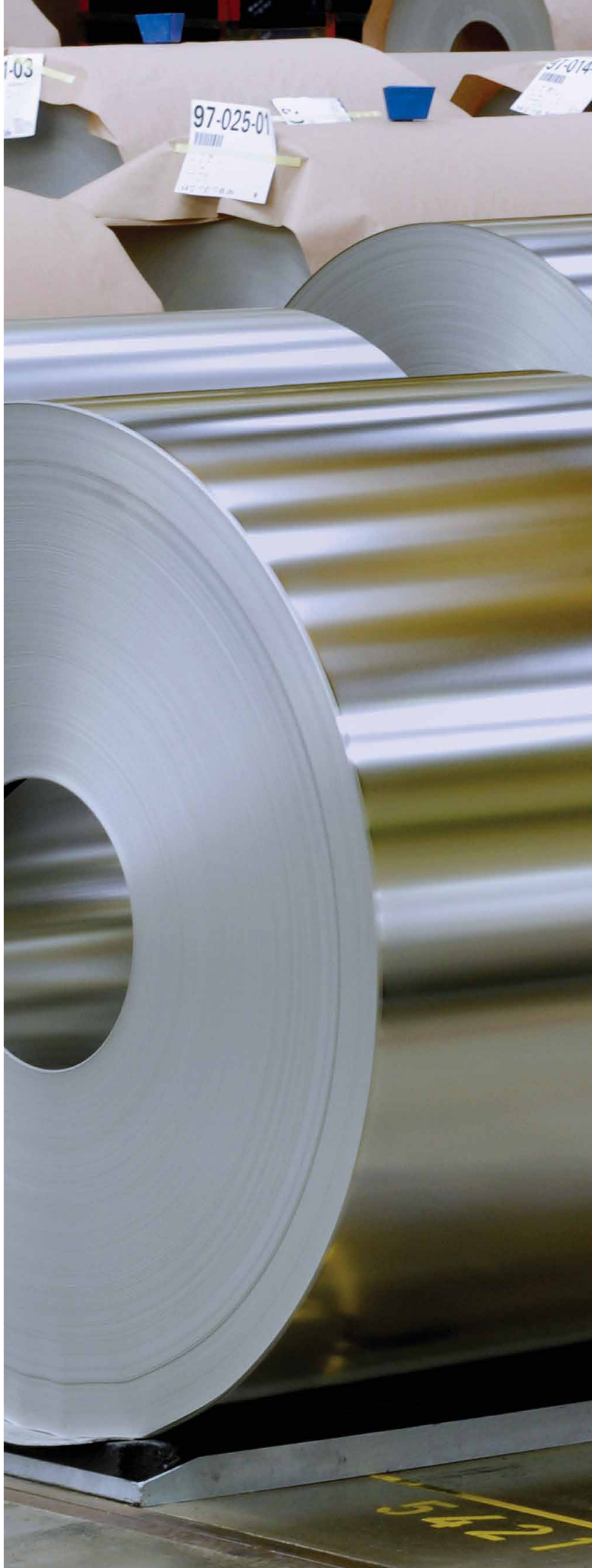
then is now a reality, with no end in sight. And this progress is only accelerating. Rick talks about the future possibilities: "There are already plans to source materials from other planets. Although this may seem a long way off, we could be heading in that direction in 20 to 30 years." There are also opportunities closer to home. In Scandinavia (Sweden), for example, there are still large amounts of untapped raw materials and opportunities to continue the industry in a sustainable and green way in the future.

"What I think is important is not just that we make all these changes for ourselves or our children, but that we do it for our children's children and beyond. If we don't act now, we will really feel the impact of our decisions in the future. It's not just about today or tomorrow; it's about the world we leave behind."

By working together in construction teams, we can create and deliver much bigger and smarter solutions than we could ever do alone.

While we recognise the need for sustainable change, much remains to be done. Achieving and sustaining this transition requires more than just a change of attitude. Closing factories is not the answer; we need to invest in making them more sustainable. This means implementing technical innovations, developing new materials, and daring to change existing processes. "It is essential that we put our shoulders to the wheel and invest in sustainable solutions. We have to make sure that we transform the industry into a sustainable and future-proof green industry, without losing momentum", Rick emphasises.

Rick is optimistic about the future: "I believe that in the long term, we can even overtake our sustainability goals and make positive adjustments, but we're not



there yet. It may seem like a long way off, but I am convinced that today's mindset, that we need to change, will act like a flywheel. Goals are like dots on the horizon, pointing us in the right direction. But as we move in that direction, we need to make more and more progress."

Design and construction team

Rick also emphasises the importance of collaboration: "Projects are becoming so large and complex that they can no longer be tackled by one company alone, including Iv. That is why I believe in strong cooperation between companies. Together, we can meet the challenges better than alone. I am a big advocate of working in a design and construction team. This is essential to tackle both major challenges and high-risk projects effectively. At Iv, we do the initial work, the design, but after that, manufacturing, installation, operation, and maintenance come into play. These are all critical phases that need to be represented and for which design criteria need to be properly defined and considered. By working together in a design and construction team, we can create and deliver much bigger and smarter solutions than we could ever do alone. Together, we ensure that everything we develop really does come to life."

Goal-driven, chain expertise

Green, clean, sustainable and circular production

Steel is everywhere, from cars to batteries, buildings to industrial installations, equipment and appliances. Millions of tonnes of steel are produced every year. The industry is demanding and under intense social pressure. The new benchmark is lighter, stronger, and more energy-efficient 'green' steel. As a result, heavy industry is undergoing a major and complex transformation. The industry has to become 'green': European steel producers aim to be CO2 neutral by mid-2045. However, in the short term (2030), heavy industry must reduce CO2 and other harmful emissions by around 35 to 40 percent fewer megatonnes. Massive reductions can be achieved through electrification, process and product optimisation, and using and reusing residual products in the process and/or chain. The challenge is to integrate all these measures into producers' existing and complex environment.

Iv assists raw material suppliers, steel producers, and the manufacturing and recycling industries with advice and monodisciplinary and multidisciplinary implementation designs. From feasibility studies to engineering closeout. And from small consultancy assignments to large, complex engineering projects to enable the production of high-quality, sustainable and green steel in the future.

Specialist advice across the entire spectrum

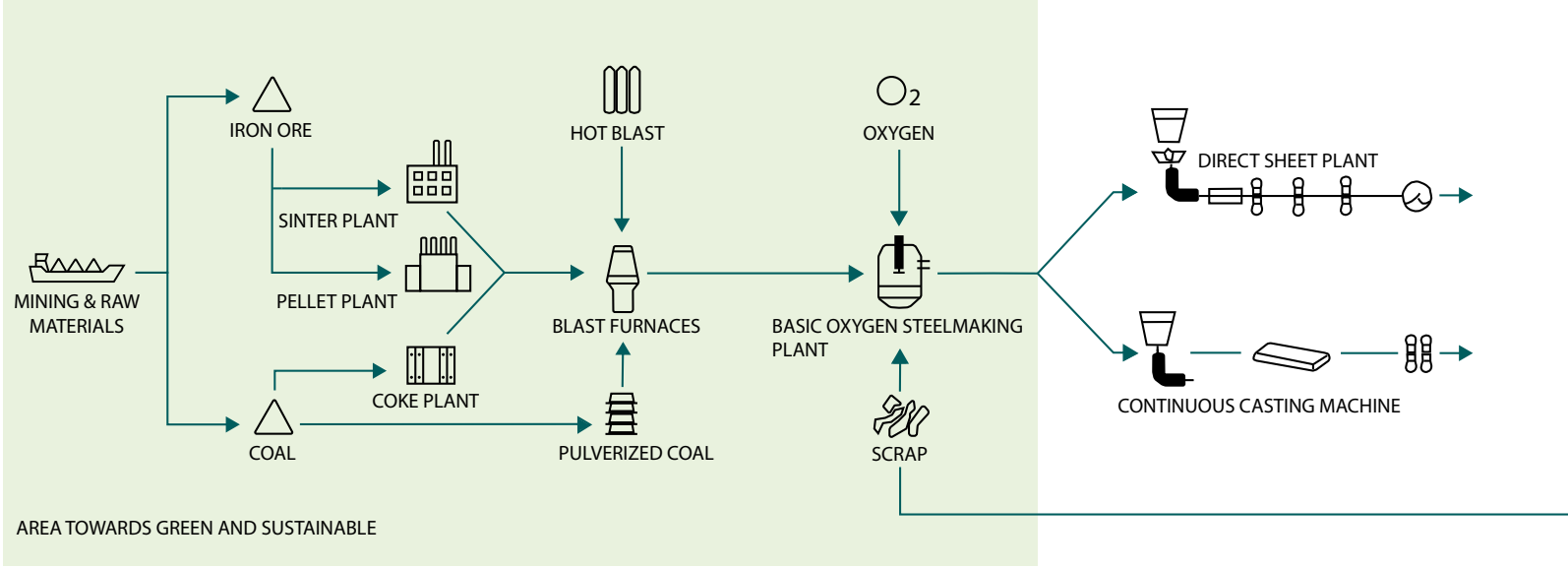
Iv is currently playing a significant role in major sustainability programmes in the metallurgical industry. Whether it involves a whole new factory or the adaptation or maintenance of existing factories, installations, equipment or machinery, we ensure all the processes in the production chain work together according to standards, the client's wishes and requirements in a sustainable, clean and circular way. We advise clients on all aspects, from site preparation and realising new factories, installations, equipment and buildings (including the necessary foundations, piping and cabling) to water treatment, recycling and developing on-site logistics such as roads, railways, ports and cranes. We provide high-quality designs and advice on the maintenance and reuse of structures and installations (asset management).

Towards a cleaner, green and sustainable steel chain

Ironmaking and steelmaking often go hand in hand, typically occurring in the same place within 'integrated steel plants', where iron ore is reduced to iron and molten iron is used to produce steel.

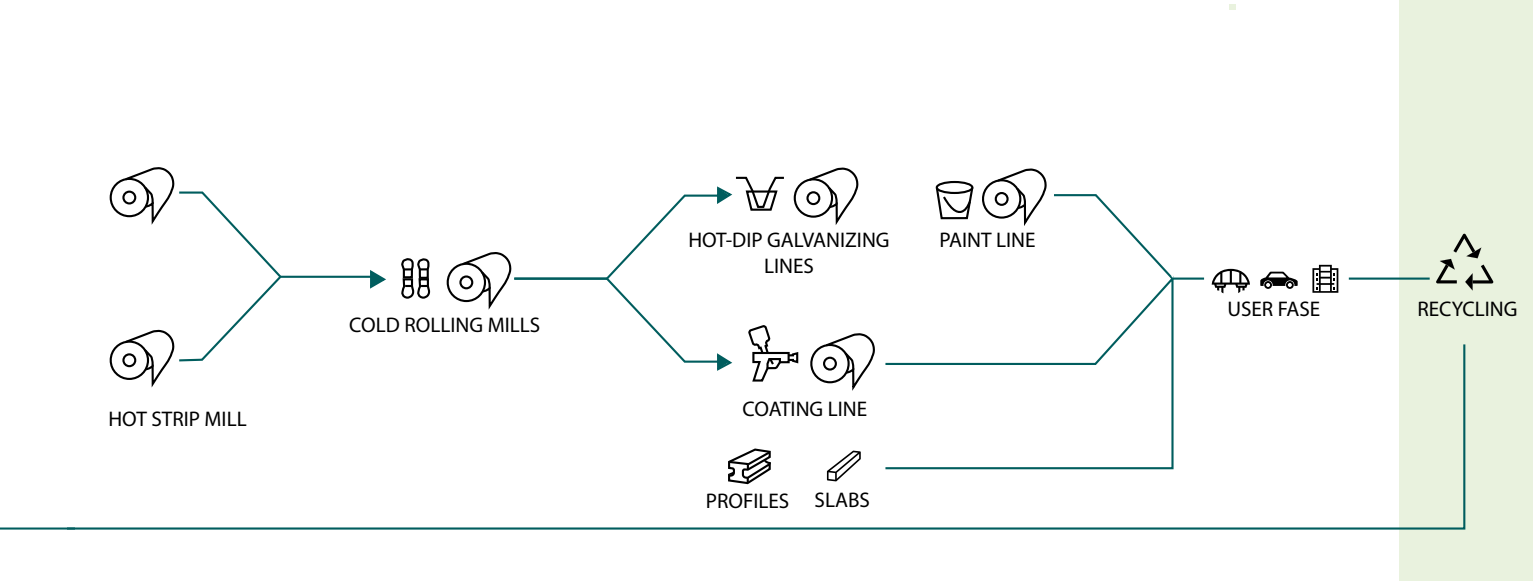
The shift to a decarbonising, renewable energy-based economy is transforming how and where iron is made. Iv contributes to the decarbonization of heavy industry by focusing on the front-end of the chain. Where raw materials are processed and traditional, fossil-based technologies are being replaced with sustainable alternatives such as electrification and hydrogen. This is where the biggest technical and environmental challenges lie. And this is where we excel.

We provide the multidisciplinary engineering needed to realize high-tech plant design and system-engineering of new process installations, often within existing industrial environments.



But the story does not end there. Steel is endlessly recyclable. After use, it returns into the chain as scrap.
By increasing the share of recycled steel in the production process, emissions can be further reduced. Closing the loop and supporting circularity. Maximising renewable energy use means decoupling ironmaking from steelmaking. Historically, both processes have been co-located in integrated plants for energy efficiency.

Looking ahead, access to renewable energy will increasingly shape the locations of green iron production. This shift will require transporting green iron to where it's needed for steelmaking.



Areas and services

Engineering services

- Project coordination, interface management
- Owner's engineer
- Feasibility studies (Business case)
- Basis of process design (BoPD)
    - Basis of Design (BoD)
- Conceptual engineering studies
- Front - end engineering & design (FEED)
- Value engineering
- Option Selection Report (OSR), with cost estimate
- Monitoring, inspections, measurements (scanning)
- ASSET Advice (Sustainability) and RAMS analyze
- Sensor controlled measuring
- Risk analyses
- Permit (support)
- HAZOP, SIL
- Basic- (BE) & Detail engineering (DE)
- Construction calculations (FEM)
- Motion and flow analyses (CFD)
- Technical specifications, requisites, datasheets ed.
- Purchasing (support)
- Preliminary, Final, Technical & Construction file
- Construction files
- Fabrication & construction (support)
- FAT & SAT
- Testing (Cold & Hot commissioning)
- As-Built recordings (field)
- Engineering close-out & archiving

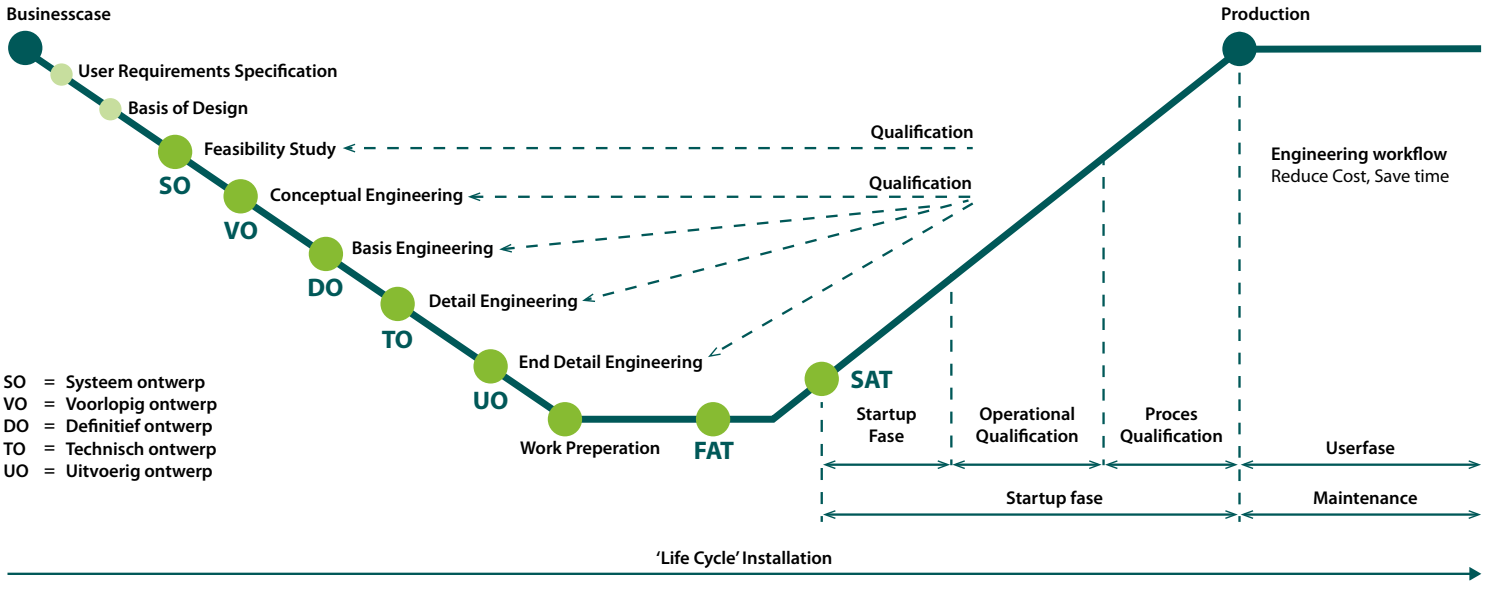
Expertise

- Raw materials handling, enclosures & supply
- Iron ore & Metallurgical coal
- Scrap treatment & recycling
- Sintered, Pellet & Coke-Gas plant
- Water treatment plant (WTP)
- Blast furnaces (BF)
- Direct reduce plant (DRP)
- Basic oxygen steelmaking (BOS)
    - Basic oxygen furnace (BOF)
- Continuous casting installation (CGM)
- Direct sheet plant (DSP)
- Hot rolling mill
- Cold (strip) rolling mills
- Pickling lines
- Dip galvanizing line
- Electrolytic galvanizing line
- Painting lines
- Laminating line (Polymer film)
- Roll packing line (RIL)
- Roll-, plate- and profile-finishing
- Transport, handling & Onsite logistic
- Recycling

Overview of disciplines

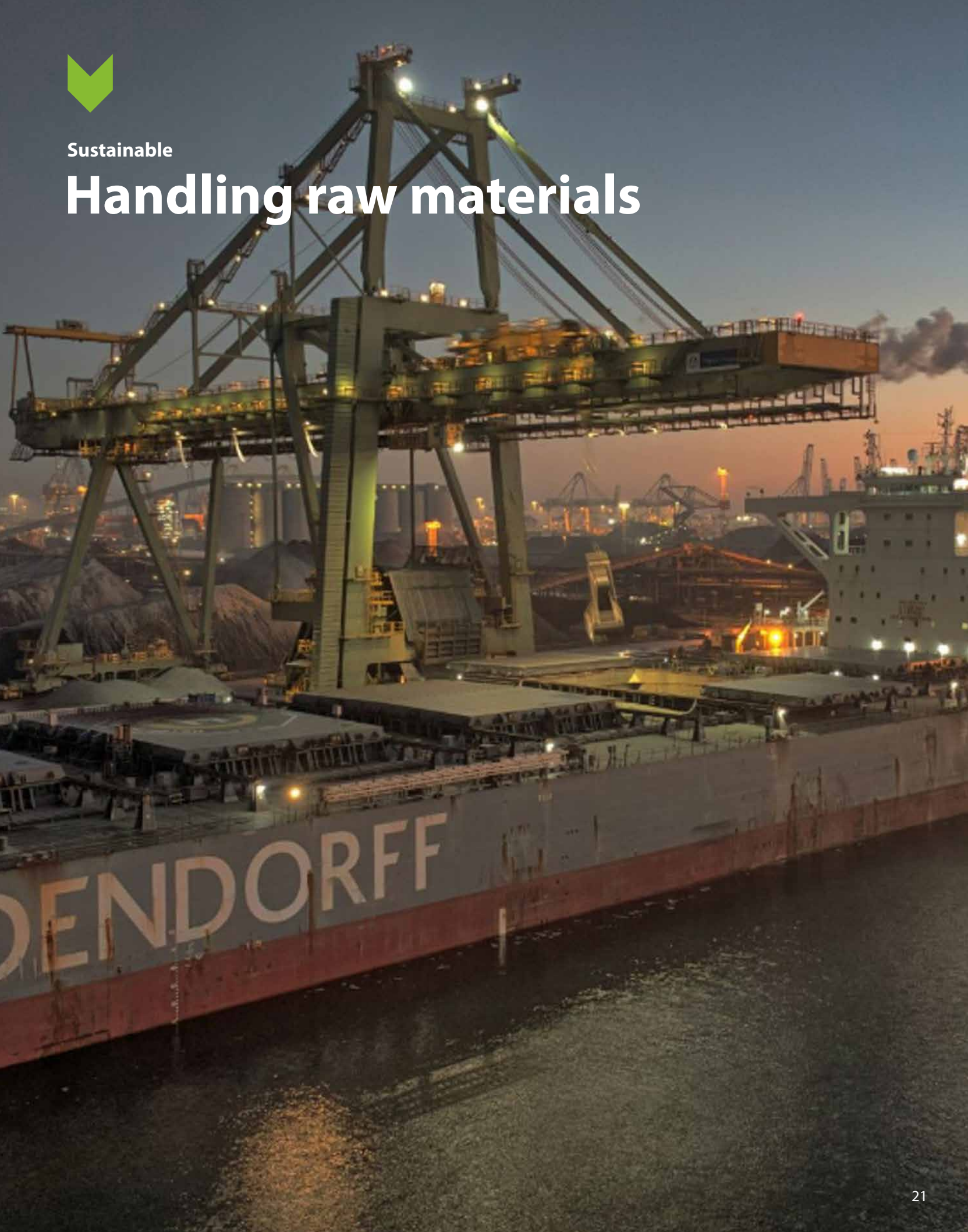
- Process & Safety
- Piping & Equipement (Media)
- Mechanical (Machine building)
- Civil, Structural & Architectural (CSA)
- Handling equipement
- EIC
- Climate & Energy (HVAC)
- Industrial water treatment
- Onsite logistics
  Railway, Roads, Ports and Cranes
- Asset management
- Health, Safety & Environment (HSE)
- Consulting, scoping and estimating
- Purchasing
- Project- & construction management

Structured approach



Sustainable

Handling raw materials



Sustainable

Dust extraction systems

The project

How can we reduce dust and heavy metal emissions in the Pellet Factory? The dedusting installation at the Pellet Factory is a crucial part of Tata Steel's improvement programme, Roadmap Plus, which aims to accelerate the reduction of the environmental impact of Tata Steel's activities.

The dedusting installation consists of 140 metres of pipe as wide as a metro tunnel. It uses 6,000 bag filters, each of which is 10 metres in length, providing a total of 60 kilometres of filter cloth. Iv has supported Tata Steel in this vast project by carrying out the basic and detailed engineering for the OSBL (Outside Battery Limits) part, including the integration, connective pipework and structural and civil engineering work.

The challenge

The dedusting installation must integrate seamlessly with Tata's existing systems and processes. This requires advanced technologies to capture pollutants and ensure effective operation alongside the DeNOx installation to reduce nitrogen oxides (NOx).

The impact

Tata Steel expects this installation will reduce dust and heavy metal emissions by around 80% compared to 2019. This installation is part of the largest environmental installation ever and will later be connected to the DeNOx installation and a new wastewater installation. This not only represents an important step towards meeting environmental objectives but also a significant improvement to the air quality in the area.

Sustainable

DeNOx

Sustainable

Renovation Blast Furnaces

Sustainable

Renovation wind machine

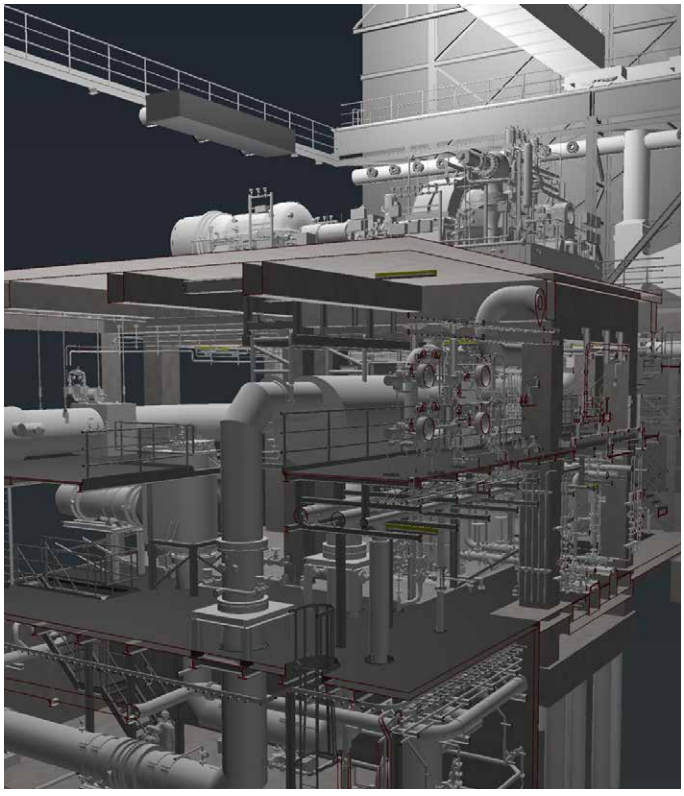
The project

Two wind machines at Tata Steel in IJmuiden needed replacement due to reaching the end of their service life. In addition to ensuring that the blast furnaces' airflow was maintained, the replacement was also a vital step in making the production process more sustainable.

Iv managed the entire process, from concept to detailed design, including the tendering of work packages. Iv's role included site preparation, civil engineering activities, pipework design, electrical systems and instrumentation, as well as carrying out dynamic calculations for the foundation to ensure the turbine could be installed in a vibration-free manner. Together with Tata Steel, Iv ensured attractive work packages for contractors and a smooth installation.

The challenge

Wind machines are sensitive to vibration. So, to prevent these vibrations from causing damage, a detailed calculation was necessary. Iv performed these calculations to understand which forces act on the machines. Through intensive collaboration between various specialists within Iv, we effectively solved the vibration problems to allow the machines to operate safely and reliably. This project required a tight schedule because the old installations had reached the end of their life cycle, and the backup turbines were not operational. This made replacing the wind machines an urgent and crucial step to continue the production process without interruption.



The impact

The project is part of the Roadmap Plus programme, which is aimed at making processes more sustainable and reducing emissions. Wind machine 26 is placed at a new location west of Plant 2 (CEN 2), and Wind machine 27 replaces an existing wind machine. These replacements increase capacity, make the process more sustainable and contribute to noise reduction. They are essential for steel production, whereby a constant flow of air to the blast furnaces is necessary.

Green

Developing Direct Reduces Iron Plant (DRP)

The project

One of Europe's largest steel producers has requested a concept design (FEED study) for a wholly revised raw material with a new 'cleaner' supply system, increasing the existing capacity (within the existing plant) and making the supply redundancy more flexible, including the flow of incoming raw materials from the port to the store and the supply flow from the store to the various consumers (users).

The immediate reason for this is the arrival of a new user, a DRP (Direct Reduced Plant). The goal of decarbonising the production of steel will be achieved with this new DRP.

The challenge

In collaboration with our client, the preliminary phase investigated an initial quick (low-cost) expansion of two existing fields and the installation of an additional 'stacker reclaimer' as a forerunner. Through brainstorming sessions, Iv then developed the new concept design in close consultation with the various users. During this process, all requirements and wishes were gathered and assessed for feasibility and the lowest possible emissions impact on the (immediate) environment, followed by an assessment of sustainability and investment costs.

The main challenge was that this is a so-called 'Brown Field' project, meaning integration into and on an existing site during production with minimal downtime, combined with applying the latest technology to, among other things, minimise dust emissions, the latter requiring a rethink of the existing users and maintenance philosophies. By involving both

the client and various users in the design process and integrating them into the project team, we were able to successfully present the outcome to management within the set project boundaries, including:

- Determining project strategy, budget, procurement and RISMAN (project risk analysis)
- PFD (Process Flow Diagram)
- Block diagram (Process Block Diagram)
- 3D Layout for logistical flows and
- HAZID report (technical risk analysis)

The impact

By increasing capacity and being able to flexibly manage different raw material flows, our client can integrate a new user (DRP) to produce green and CO_2 neutral (fossil-free) steel in the future. In addition, the new design of the raw material store and handling contributes to greater efficiency on site. The increased redundancy helps ensure that better and smarter maintenance can be carried out, directly contributing to lower dust emissions. The extra redundancy also provides some leeway in the event of a system failure, allowing production to continue.

Green

Upgrade Direct Reduces Iron Plant (DRP)

The project

For a large and important steel producer, Iv undertook a project to improve an existing Direct Reduced Iron Plant (DRP) in the United States. This DRP was only two years old and, for various reasons, was not operating to specification. As a result, production capacity was lagging and raw material degradation was extensive, resulting in unwanted by-products and pollution. These by-products were causing poor performance and wear and tear to installations and equipment, resulting in downtime and inadequate accessibility.

The US-based DRP processes iron oxide pellets containing 67% Fe (iron) into a highly metallised form of iron in the form of Hot Briquetted Iron (HBI) containing 91% Fe. HBI briquettes are a raw material used by steel producers worldwide. The advantage of HBI is that it eliminates the need for a Blast Furnace, making the process significantly different from the (still) current method of steel production. This is a key step towards the future production of clean, green and circular steel.

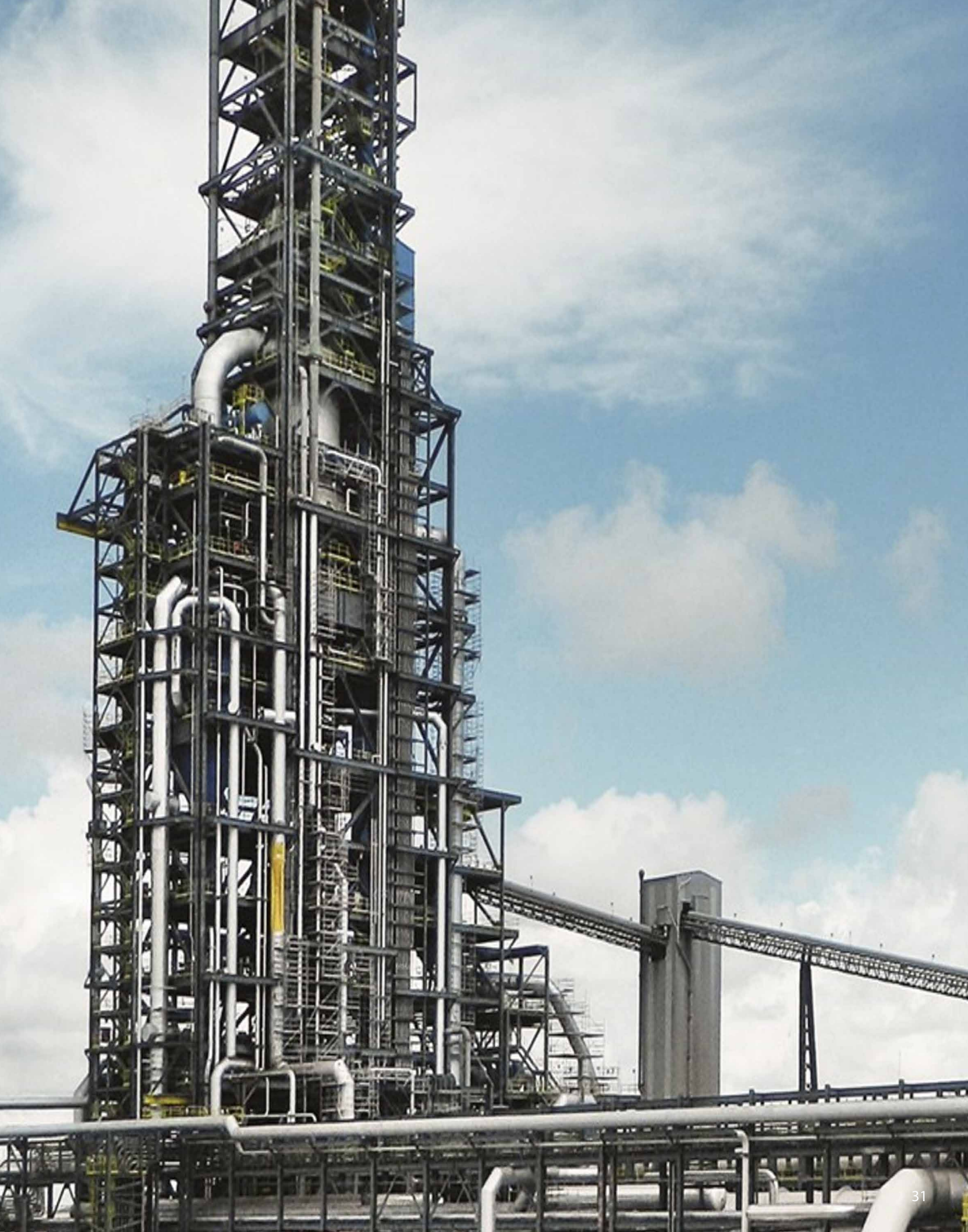
The challenge

The aim and challenge of the concept and basic engineering phase was to make the entire plant more efficient and productive and to significantly reduce unwanted by-products. The project began with mapping the whole plant and its logistical operations, including the technical condition after two years. In the project's initial phase, Iv identified all the issues, which were then analysed, prioritised and defined in various work packages. The most urgent work packages were tackled and implemented first.

The improvement task covered the storage and handling of raw materials and the treatment of by-products (including particulates and sludge), the introduction of redundancy, screening and sampling of production, dedusting, storage of raw materials, by-products and products, various train, wash and HGV loading stations, and pollution control, environmental and working conditions.

The impact

In implementing the detailed optimisation and improvement proposals, we collaborated with the client to select a number of contractors for further implementation. Iv fulfilled the role of client engineer and consultant. The production of HBI is currently performing as required, and the plant recently had its best production year ever. Production efficiency has also increased, costs have been reduced, and pollution levels have been cut by at least 80 percent.



CAPEX

Site preparation

The project

How do you ensure an accurate representation of the current situation of complex terrain? In project HeraCless, the current Blast Furnaces 6 and 7 (Blast Furnace (BF) and the Converter Gas Plant 2 (CGP2) will be replaced by a new Direct Reduce Plant (DRP) and an Electric Arc Furnace (EAF) to significantly reduce CO_2 emissions and realise the transition to more sustainable and therefore green steel production.

To get a clear picture of what lies within the intended and future area of the new DRP and EAF, Iv performed a large-scale 3D laser scan. This scan provides accurate information on the current situation and forms the basis for further design and construction work.

The challenge

Tata Steel IJmuiden is a complex terrain with a lot of traffic, containers and building materials, spread over different factories and zones with specific safety risks. In addition, weather conditions, such as reflections from precipitation, can also affect measurements.

The Leica P50 laser scanner is used to scan the entire terrain as accurately as possible. A setup is made every 30 metres, with the whole terrain mapped with approximately 500 setups. For extra precision, measurement targets and 'cloud-to-cloud' technology are used. Measuring control points every 100 metres with a total station achieves a 3 to 5 mm accuracy, essential for making connections to existing buildings and pipes.

The acquired point cloud is converted to Recap files and loaded into Navisworks. The project team is given access to an online viewer via the Leica Cyclone Enterprise environment, where they can view, measure and annotate the point cloud.

The impact

The scan provides accurate data for the design and installation of the new installations, thus contributing to an efficient construction process.

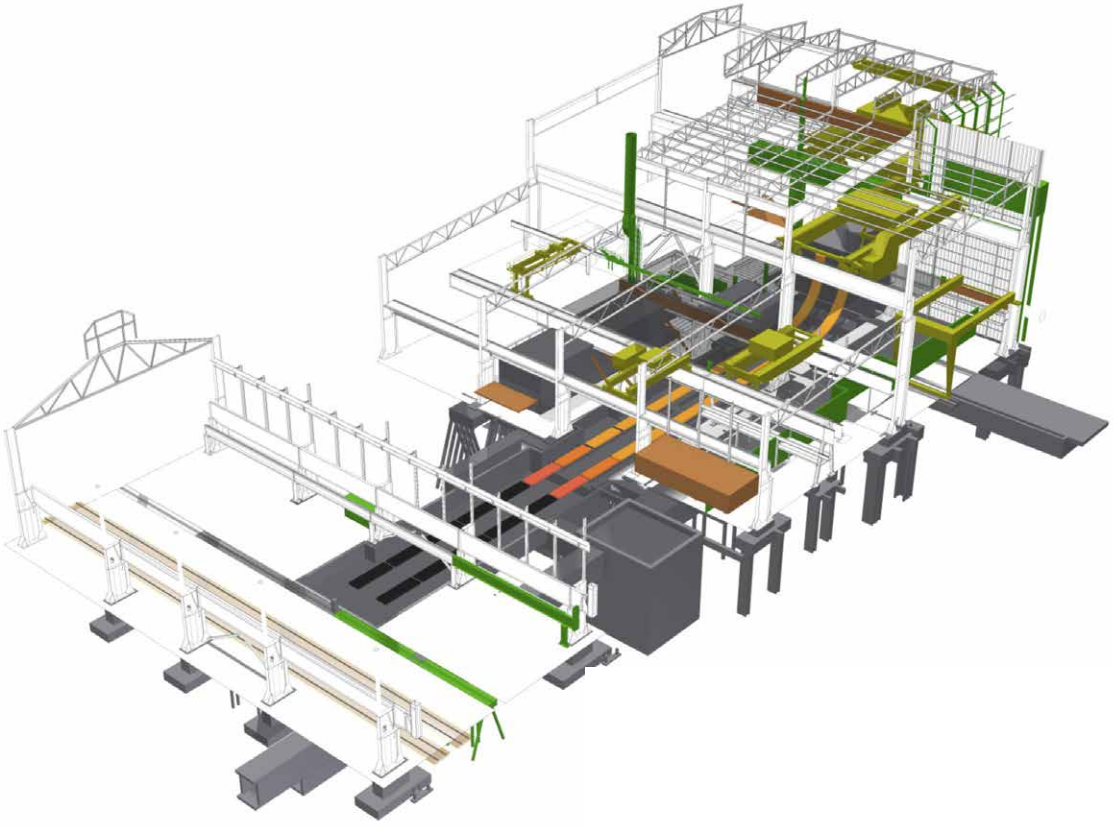
CAPEX

New continuous casting machine

The project

In 2018, Tata Steel in IJmuiden put the new continuous casting machine (CGM 23) into operation to increase production capacity and produce more complex, high-quality products. This machine is located in the Basic Oxygen Furnace, next to the present casting machines 21 and 22.

A continuous casting machine pours molten steel into steel slabs 8 to 12 metres long and about 22 cm thick. These slabs are then rolled into steel coils in the hot rolling mill. Tata Steel Nederland now has three continuous casting machines, allowing two machines to run simultaneously while the third undergoes maintenance. However, reducing the chance of machine failure and downtime and increasing production efficiency were only some of the motives behind adding a third machine.



Iv was responsible for the integration design of the complete installation of this casting machine, including the integration with existing workshops, machines and systems. This involved both ISBL (Inside Battery Limits) and OSBL (Outside Battery Limits) activities.

The work consisted of adapting the existing environment, the design, the positioning of auxiliary equipment and solving five major interference problems, such as moving the main vessel of the Basic Oxygen Furnace, the water platform, the extraction system, the foundations, the layout and design of an additional workshop, logistic route inside and outside the building and the rerouting of cables and pipes.

The challenge

Executing a project in a brownfield environment, where the existing continuous casting machines 21 and 22 would remain in full operation while the new new continuous casting machine was to be integrated into an existing and already full hall. This required emptying and reorganising the hall plus repurposing the existing workshop while production continued without interruption. Iv began pre-engineering in late 2013 and provided support until 2022. This large-scale and complex operation spanned almost ten years.

The impact

Iv was responsible for the preparation and integration of the new installation, which allowed the continuous casting machine to be successfully assembled, installed and maintained. The result is a significant increase in capacity, which enables Tata Steel to meet the growing demand for advanced steels, such as 'advanced high strength steels' and 'ultra-high strength steels'. These steels are super strong and highly formable, ideal for sectors contributing to a more sustainable future. For example, car manufacturers can use them to design lighter, more fuel-efficient and safer cars. Construction of the machine began in 2016, and CGM 23 is now the world's most advanced continuous casting machine. Thanks to this installation, Tata Steel can produce the steel of the future: even stronger and more sustainable. This sets the company apart from the competition and strengthens its position at the forefront of the steel industry.

CAPEX

Upgrade hot mill


FINOWALS 25
86

CAPEX

Upgrade cold strip rolling mills

CAPEX

Storage and handling coils

Sustainable

Upgrade of water treatment plant

The project

With all the sustainability modifications on the site, modifications to the Tata Steel water treatment plant are also required. Iv is responsible for reassessing the basic engineering and detailed engineering work on the wastewater treatment plant. The existing treatment plant will be upgraded and improved, including an expansion of the sand filters. This includes the installation of a PEFA buffer, a Biological Nitrogen Removal (BSV), two post-sedimentation tanks and pumping wells.

The challenge

The project involves a major upgrade of the wastewater treatment plant to meet the requirements of increasing sustainability changes at the Tata Steel site. A crucial challenge is to convert the plant in phases without any interruption to operations. This requires a precise design that takes into account operational continuity.

The impact

The upgrade will result in a more efficient and effective Tata Steel water treatment plant capable of removing a wide range of pollutants, including metals, emissions and dissolved gases. The plant will help reduce the environmental impact of Tata Steel's operations. Moreover, the improved treatment will contribute to a cleaner environment and more sustainable operations.

CAPEX

Railway

The project

Tata Steel, the largest steel producer in the Netherlands, is on its way to producing green steel with Project HeraCless, which will involve many adjustments in dozens of processes and infrastructures. Tata Steel has more than 100 kilometres of railway. A redesign of the track layout is necessary to make adjustments on-site and optimise processes.

The challenge

The Tata Steel site is complex. With its various factories, installations, roads and other buildings, the site resembles an infrastructural puzzle where safety is paramount. In addition, the IJmuiden-based steelmaker also aims to reduce the impact on the surrounding area, for which adjustments to the railway were also undertaken. Iv had to combine all these interests in the final design.

The impact

By redesigning the track layout, large-scale adjustments can be made to the Tata Steel site, ultimately making it possible to produce steel more cleanly. There will also be less disruption to the surrounding area.


Roads


Cranes


Ports

Curious about the possibilities for your project?

Rick, managing director Heavy Industries, would be delighted to discuss this with you!

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Engineering
that excites