

# Corporate Responsibility Report 2020-2021

ArcelorMittal Belgium





Dear visitor,

Welcome to the digital Corporate Responsibility Report of ArcelorMittal Belgium.

2020 and 2021 were two years when the coronavirus dominated our lives. Professionally, too, there was a big impact. When the first signs of the corona virus seeped in, we did not hesitate to revise our work organisation at short notice. In doing so, we wanted to consistently be a few steps ahead of the government's new rules and measures, but at the same time limit the impact on our production as much as possible. A balancing act. From the start, our approach was based on 4 priorities:

1. the health of each of our colleagues
2. not spreading the virus further in our company and in society
3. the safety of our colleagues and facilities
4. our social role as a producer of basic materials

Needless to say, that the corona crisis created a lot of uncertainty. Some departments operated at minimum occupancy, in others, production was reduced. Temporary unemployment due to force majeure was also rolled out for several colleagues.

2020 eventually turned out to be a year with not only an unseen health crisis but also an unseen economic crisis. As a result, several cost-cutting measures have been implemented at ArcelorMittal Europe's various sites to keep costs under strict control and thus cope with the crisis. 2021 also brought some unexpected new challenges, covid did not appear to have disappeared with the vaccinations, at the same time the economy did return to full speed. In this context, we decided to combine two years into one consolidated corporate responsibility report for 2020 and 2021.

Despite the difficult context, we continued to work on our ambitious plans for the future, among others in the field of sustainability. We are fully engaged in implementing an action plan to reduce CO<sub>2</sub> emissions by 35% per year by 2030 compared to 2018 and to become climate neutral by 2050. There are three axes on which we are working to achieve this objective:

1. Further improvement of material and energy efficiency as well as increased scrap usage.
2. The implementation of 'Smart Carbon' technologies:
  - a. replacing fossil carbon with circular and waste carbon: 'Fresh' raw materials will increasingly be replaced with waste products, in an environmentally and

economically feasible way. The Torero project will pre-treat waste wood from container parks to produce bio-coal suitable for the blast furnace process. ArcelorMittal Belgium also has demonstration projects running with plastic waste that could be injected into the blast furnaces in the form of powder or gas.

- b. reforming waste gas into useful chemical compounds: End of 2022, ArcelorMittal Belgium will commission a plant (Steelanol) to biologically convert gas from the steelmaking process into bioethanol.
  - c. Separating CO<sub>2</sub> for reuse or storage.
3. Deployment of hydrogen: replacing carbon as a reductant, with hydrogen (ultimately green hydrogen, when it is available commercially).

The best illustration of the third axis is the letter of intent we signed with the Belgian and Flemish governments at the end of September 2021 to support a €1.1 billion project to build a direct reduced iron (DRI) plant and 2 electric furnaces at our Ghent site. A DRI plant uses natural gas, and potentially hydrogen, instead of coal to reduce iron ore, resulting in a large reduction in CO<sub>2</sub> emissions compared with blast furnace ironmaking. By 2030, this will lead to a reduction of around 3 million tonnes of CO<sub>2</sub> emissions per year. A historic milestone for our company.

The previous years, we strengthened our 'license to operate' and were the first in the ArcelorMittal Group to obtain the ResponsibleSteel certificate in July 2021. All our efforts to become the sustainable steel company of the future can be found in this Corporate Responsibility Report.

I wish you an enjoyable read!

Manfred Van Vlierberghe  
CEO ArcelorMittal Belgium

# Key Performance Indicators

KPI	2017	2018	2019	2020	2021
Safety frequency rate of own employees and contractors	0.9	0.9	1	1.6	1
Percentage of sites equipped with a safety management system (OHSAS 18001 / ISO 45001)	100%	100%	100%	100%	100%
Percentage of sites equipped with an environmental management system (ISO 14001)	100%	100%	100%	100%	100%
Percentage of sites equipped with an energy management system (ISO 50001)	0%	75%	75%	100%	100%
Number of training hours as a percentage of the amount of hours worked	4.5% (ArcelorMittal Gent)	4.8% (ArcelorMittal Gent)	5.4% (ArcelorMittal Gent)	3.23% (ArcelorMittal Belgium)	4.26% (ArcelorMittal Belgium)
Number of employees ArcelorMittal Gent, Liège, Genk and Geel	5,000	5,000	5,000	5,712	5,831
Number of registered active contractors	> 800	> 1,000	> 1,000	> 1,000	> 1,000
Number of company visits	249	197	195	39	37
Number of sponsored projects	87	86	43	1	10
Percentage of employees who have subscribed to the principles of the Code of Conduct	100%	100%	100%	100%	100%
Absenteeism (%)	4.48%	4.89%	4.96%	4.22%	4.91%
Production of green energy (solar and wind)	/	4722 MWh (wind turbines)	6532 MWh (wind turbines + solar panels)	9165 MWh	7349 MWh
Energy consumption (GJ/tHRC )	16.43	16.5	16.33	16.92	16.98
Percentage external scrap (per ton of liquid steel)	10.93%	9.78%	9.86%	10.55%	9.83%
Water use (m <sup>3</sup> per ton of liquid steel)	1.20	1.28	1.17	1.88	0.86
Dust emissions (kg per ton of liquid steel)	0.12	0.07	0.12	0.14	0.13
NOx-emissions (kg per ton of liquid steel)	0.94	0.95	0.93	1.03	1.24
SO2 emissions (kg per ton of liquid steel)	0.95	1.18	1.09	0.88	0.93

# Company Profile

ArcelorMittal Belgium is part of the ArcelorMittal group, one of the world's leading steel and mining companies. Our Belgian cluster with sites in Ghent, Liège, Geel and Genk has all necessary facilities on site to convert the raw materials supplied in a sustainable and innovative way into steel products with high added value.

Cars, wind turbines, design houses... everywhere you look, you come across steel from ArcelorMittal Belgium. In 2020 and 2021, we shipped around 5 million tonnes of flat steel, continuously improving our existing products and developing new steel products.

## ArcelorMittal in Belgium

### ArcelorMittal in Belgium

**4.6 Mt shipments**

- 70% Industry
- 30% automobile

**5,000 Internal employees**

- 70% Exempts
- 20% Blue collars
- 10% White collars

Contractors 1,300  
Direct and indirect employment 30,000

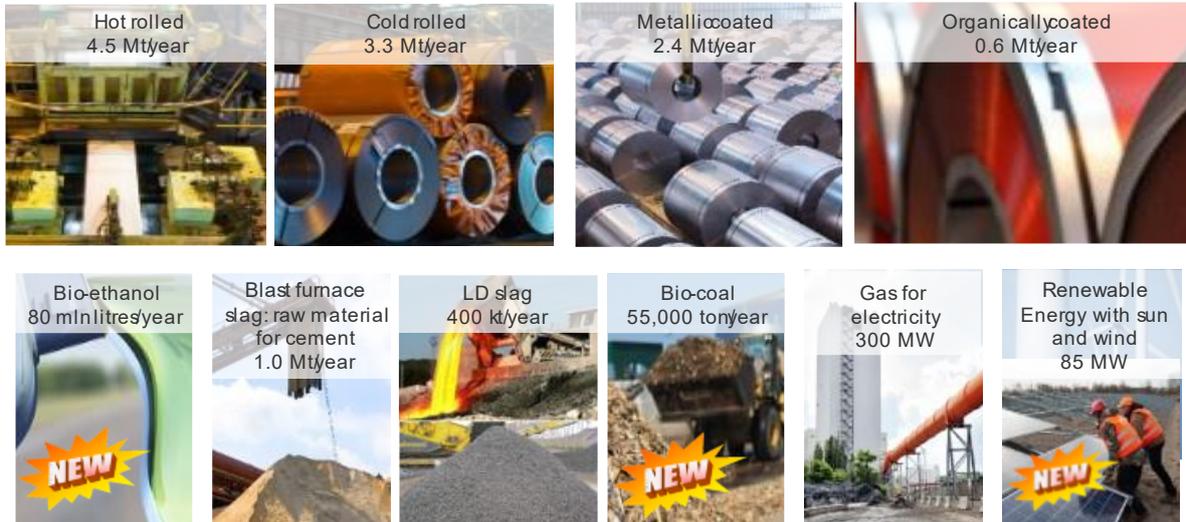
*"Nothing is more important than health & safety of all people on our premises"*

- ✓ High-tech company
- ✓ Producing safe, sustainable steel
- ✓ 5000 colleagues, highly skilled, creative and passionate about making the steel for tomorrow via our strong culture of continuous improvement & learning
- ~ 600 engineers and > 200 IT people

## Our end products

We extend the range of our finished products and valorize our by-products to a maximum

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## Our strengths

- We possess complementary installations and products.
- We offer a unique and wide range of products (uncoated, galvanised, organically coated).
- We are at the forefront of innovation.
- We are unrivalled in the development of the latest generation of ultra-high-strength steels.
- We maintain close contacts with the universities of Ghent and Liège and have two major research centres in Ghent (OCAS) and Liège (CRM).
- We partly serve the same customers in the automotive and industrial sectors. ArcelorMittal Belgium accounts for 15% of all automotive steels in Europe.
- We are a reference for our customers: product range, product development, quality and service.
- We are a pioneer in the field of CO<sub>2</sub> and energy efficiency.
- We can count on motivated & committed employees who are proud to work for us.

## Our Management Committee

The Management Committee of ArcelorMittal Belgium is composed as follows:

- Manfred Van Vlierberghe, Chief Executive Officer of ArcelorMittal Belgium and Chairman of the Management Committee.
- Frouke Lambert, Chief Human Resources Officer of ArcelorMittal Belgium.
- Jeroen Van Lishout, Chief Operating Officer Primary of ArcelorMittal Belgium.
- Nico Dewachtere, Chief Operating Officer Finishing of ArcelorMittal Belgium.

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## *Accelerating our pathway towards carbon neutral steelmaking*

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To become carbon neutral by 2050, we have several large initiatives underway, in addition to the continuous improvement projects that are common to all ArcelorMittal sites. Some projects are already operational, and some are being built right now. We will deploy these initiatives along a synergetic combination of the blast furnace and Direct Reduced Iron (DRI) route.



### Smart Carbon

Our 'Smart Carbon' concepts all have one thing in common: to put steelmaking at the heart of the circular economy:

Reforming waste gas into useful chemical compounds is a perfect example and that is exactly what we will do at Steelanol: capture waste gases from the steelmaking process and biologically converting them into bioethanol,

thanks to our partner LanzaTech's technology. The plant will be commissioned beginning of 2023. It's a very visible symbol of our climate action.

Whereas in Steelanol we recycle a by-product at the output, Torero is about what we use as an input. At the input of our production, we replace fossil coal by biocoal. We will also make our own biocoal from waste wood, for this we are building the Torero installation. Replacing 'fresh' raw material by waste products, in an environmentally and economically feasible way, solves multiple problems at once.

Torero is about wood waste, next to that, we also have the LIFE Smart project which started in 2021, using plastic waste as a sustainable raw material. AlterCoal pellets are made from end-of-life plastics and other waste with a high carbon content. The LIFE SMART project will allow us to chemically recover these AlterCoal pellets into metallurgical coke and pulverised coal. Both take on the role of reductant and energy source in the blast furnace.

Our relined blast furnace B restarted production in March 2021, and is one of the world's most advanced blast furnaces with an optimised shape thanks to sophisticated R&D simulations. It will allow us to combine performance and efficiency and use of recycled carbon and hydrogen from wood and plastics.

### Direct Reduced Iron (DRI) & synergy with the blast furnaces



Our other blast furnace A will soon reach the end of its lifetime after more than 40 million tons of production. In September 2021, we announced together with the government that this blast furnace will be replaced by a Direct Reduced Iron (DRI) plant as well as two new electric furnaces. DRI based on natural gas can be considered as a blue hydrogen installation, but we will go further.

The combination of a DRI and blast furnace allows us to create unique synergies by using excess energy and waste gas from the blast furnace as a captive energy source in the DRI plant and by using the off gas in the 'Smart Carbon' installations. Moreover, at a later stage, once green hydrogen is available on a commercial scale, we will gradually inject it in this combined system.

In parallel to all this, we are developing an eco-system that maximises value creation from our activities, for example, by using the waste heat from our hot strip mill, to use it in the neighboring hospital and town. This reinforces our license to operate.

# Production figures

	2020	2021
<b>Coking plant</b> Coke	1.09 million tons	1.25 million tons
<b>Sinter plants</b> Sinter	4.26 million tons	4.74 million tons
<b>Blast furnaces</b> Pig iron	3.65 million tons	4.20 million tons
<b>Steel shop</b> Liquid steel	4.11 million tons	4.55 million tons
<b>Hot rolling mill</b> Hot rolled coils	4.47 million tons	4.82 million tons
<b>Cold rolling mills</b> Finished cold rolled coils	3.33 million tons	3.35 million tons
<b>Electrolytic galvanizing lines</b> Electrogalvanized coils	0.51 million tons	0.39 million tons
<b>Hot dip galvanizing lines</b> Hot dip galvanized coils	1.82 million tons	1.97 million tons
<b>Organic coating lines</b> Organically coated coils	0.62 million tons	0.67 million tons

	2020	2021
<b>Coke-oven gas</b>	8.03 million GJ	9.32 million GJ
<b>Blast furnace gas</b>	18.3 million GJ	21.9 million GJ
<b>Converter gas</b>	2.81 million GJ	3.11 million GJ

## By-products

	2020	2021
Benzol	9,735 tons	7,865 tons
Tar	35,065 tons	41,048 tons
Sulfur	1,363 tons	1,275 tons
Blast furnace slag	1.05 million tons	1.20 million tons
Steel slag	0.42 million tons	0.43 million tons

## Raw materials

	2020	2021
Coal	1.48 million tons	1.70 million tons
Iron ore	3.39 million tons	3.77 million tons
Anthracite	0.17 million tons	0.16 million tons
Limestone	0.45 million tons	0.46 million tons
Dolomite	0.19 miljoen ton	0.35 million tons
Olivine	0.05 million tons	0.03 million tons
Pulverized coal	0.80 million tons	0.84 million tons
Pellets	1.98 million tons	2.30 million tons
External scrap	0.47 million tons	0.46 million tons
Lime	0.20 million tons	0.23 million tons

#corona

ArcelorMittal



## 01 SAFE, HEALTHY, QUALITY WORKING LIVES FOR OUR PEOPLE

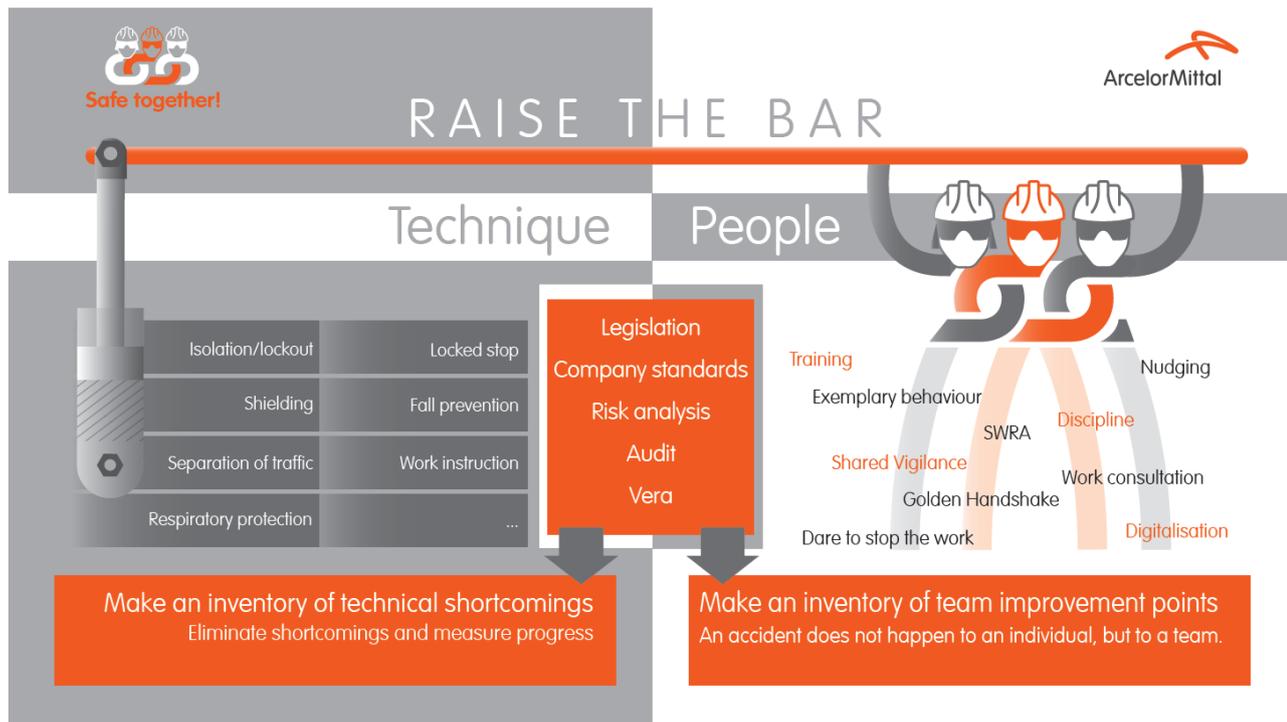
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### SAFETY

Safety and health are increasingly becoming a "license to operate". Even with a benchmark position in terms of cost, quality, service... we can only survive and grow as a company if we meet some basic conditions, such as the safety and health not only of our employees and contractors, but also of our neighbors and the planet.

Corona unfortunately did not help us raise safety to a higher level in 2020. Reduced workplace attendance and reduced or discontinued training came at the expense of safety. The frequency rate rose from 1 in 2019 to 1.62 in 2020, and serious incidents also remained at far too high a level. In addition, ArcelorMittal Europe - Flat Products faced 3 fatal accidents in early 2021. This prompted the distribution of a video message and letter to employees calling on them to follow safety rules and procedures strictly always and in every situation. The year 2021 ended with a frequency rate of 1 and with 3 serious occurrences compared to 6 in the year 2020. Both are clearly an improvement in a dramatic year where we suffered a fatality.

Our "Raise the Bar" safety action plan is crucial to taking safety to the next level. The key elements of Raise the Bar are brought together in a poster with two parts: technology and people. The intention of this simple image is that whenever an incident or anomaly occurs, we in the teams involved ask the question: what went wrong here on a technical level, and what commitment will we take as a team to help ourselves and each other that this incident can never, ever happen again. As an extension of Raise the Bar, we therefore want to put our finger on the wound of the technical and human shortcomings from the teams and eliminate them.



To continuously improve, including in safety, we apply the PDCA method. PDCA is the abbreviation for Plan Do Check Act. As an organisation, we are very strong in Planning and Doing, while the improvement potential lies in Check and Act - checking and adjusting. Operational discipline is the result of well-trained people and enforcement (Check and Act). To further reinforce the culture of checking and adjusting, a training was launched focused on 'subsidiarity' at the beginning of 2021. The main goal of this training is to clearly understand the PDCA-tasks for each level in the organisation. Each level has a different responsibility in the checking of safety behavior for example.

We also made a strong commitment to presence of the hierarchy on the shop floor, we increased safety talks, doubled safety audits, this approach already paid off in early 2021.

On 21 October 2020, a new edition of the ArcelorMittal Health & Safety Day took place. The thread running through this Health & Safety Day was our 'Raise the Bar' safety action plan, through which we want to move towards zero accidents together. The main elements were brought together in a poster with two sections: technology and people holding hands. A 'poll' was developed, allowing colleagues to vote for the Raise the Bar concepts they considered most important. In the Technique section, the biggest improvement potential lies with Seizures. In the People section, the main pain points are workplace presence (in other words shared vigilance) and training.

The theme of the Health and Safety Day on 28 April 2021 was 'the safest way is a choice'. In his video message, our CEO Manfred Van Vlierberghe called on all employees to make that choice every day for yourself, your colleagues, family, and friends. During this Health and Safety Day, attention was also paid to the following topics: psychosocial well-being and resilience (due to corona and home working), smoking cessation, road safety and lock-out.

ISO 45001: The external safety and health audit ISO 45001 was completed with a fine result.



**Beste collega,**

Op 21 januari jl. hebben we in onze digitale beleidsverklaring samen terugblikkt op een bijzonder moeilijk jaar. Toch was ons besluit dat 2020 voor ArcelorMittal Belgium geen verloren jaar was, en dat we als team sterker uit de crisis zijn gekomen. Tijdens de beleidsverklaring hebben we ook onze strategie besproken waarmee we de toekomst met vertrouwen tegemoet zien.

Met deze brief willen we echter terugkomen op een thema dat ons bijzonder nauw aan het hart ligt: en dat ons grote zorgen baart: de veiligheid van jou en van iedereen in ons team. Aan de vooravond van een derde covidgolf wordt dit thema nóg belangrijker. We hebben immers in de eerste twee golfen geleerd dat de vermindering aanwezigheid op de werkvloer en het stoppen of verminderen van opleiding ten koste gaan van veiligheid.

Een aantal verontrustende signalen rondom ons moeten we als een belangrijke waarschuwing beschouwen:

- Ons frequentiecijfer is met 50% gestegen in vergelijking met de voorbije jaren.
- Onze ernstige incidenten bevinden zich op een onaanvaardbaar hoog niveau en verplichten ons tot actie.
- De voorbije twee maanden zijn we binnen Vlakke Producten Europa met drie dodelijke ongevallen geconfronteerd waarvan twee reeds dit jaar.



**ArcelorMittal**

In dit kader verwijzen we ook naar de videoboodschap van Geert Van Poelvoorde, CEO van ArcelorMittal Europa – Vlakke Producten, die je kan terugvinden op de homepage van ons intranet. Hij hamert op de strikte noodzaak om de veiligheidsregels en -procedures te volgen. Deze voorschriften niet volgen, is een persoonlijke keuze, maar een zeer gevaarlijke keuze... Vergelijk het met Russische roulette spelen: het kan goed gaan, maar als het fout gaat, dan staat je leven en dat van je collega's op het spel.

We roepen dan ook iedereen met aandacht op: zorg voor jezelf en je collega's, volg de veiligheidsregels altijd en in elke situatie, en stop het werk indien dit niet veilig kan. Praat erover, met je collega's en met je familie. Vertel hen voordat je naar het werk vertrekt, dat je bewust de keuze maakt om geen Russische roulette te spelen. Omdat je 's avonds gezond en veilig terug thuis wil komen. Het is jouw keuze, doe het voor jezelf, je familie en je collega's.

Aan de leidinggevenden, op welk niveau dan ook in onze organisatie, vragen we om meer aanwezig te zijn op de werkvloer. Onze analyses hebben duidelijk aangetoond dat dit absoluut mogelijk is op een covidveilige manier. Vergadert u kunnen we van thuis uit dankzij de vele hulpmiddelen zoals Teams, maar elkaar coachen, helpen en bijsturen om ongevallen te vermijden, kan alleen op de werkvloer. Ook dat is gedeelde waakzaamheid!

**Laat ons samen van 2021 in de eerste plaats een veilig jaar maken!**

Collegiale groeten,  
**Manfred Van Vlierberghe**  
**Jeroen Van Lishout**  
**Nico Deswachtère**  
**Guy Bontinck**

## **HEALTH**

Safety is our top priority, and health is inextricably linked to it. As a result of the global pandemic, health has become even more important than ever. The ArcelorMittal Belgium team worked hard in 2020 to bring the corona crisis within our company under control. Our 4 priorities were:

1. the health of our colleagues
2. not spreading the virus further in our company and in society
3. the safety of our colleagues and facilities
4. our social role as a producer of basic material

Our occupational health department was very closely involved in the creation of the corona policy and the various measures to combat the corona virus. Even from a very early stage, at a time when public opinion was still little concerned about the virus, intense internal consultations were held, and some initial important measures were taken. These include the quarantine measures that were introduced very early on for people with corona symptoms in the family and to the Corona phone line and Corona mailbox that enabled us to consistently follow up disease reports.

Very soon, a Corona crisis cell was set up and coordinated by the head of the prevention service. This crisis cell was convened daily at first, later twice a week, to closely monitor the Corona situation. Besides the presence of the company doctors, representatives of the prevention service, human resources management and internal and external communication also participated in this crisis cell. In this way, we were able to react very quickly to new evolutions, adjust where necessary and take appropriate measures. All health-related measures were also approved by the crisis unit, in consultation with management and trade union partners.

Three basic rules were drawn up: good hand hygiene, adherence to a social distance of 1.5 meters and the mouth mask, where wearing a mouth mask was compulsory on the blast furnace site. Safety ambassadors supported compliance around the clock.

Daily temperature readings were taken and recorded at everyone's entrance to our sites as well as at certain site areas (e.g., blast furnaces). Samples were also taken during working hours at certain sites (e.g., blast furnaces).

In collaboration with an external prevention agency, a test module was set up to take corona test samples at our site in a low-threshold manner. This was done in consultation with the Agency for Care and Health, the Province of East Flanders, the City of Ghent, the Ghent hospital network, and the Gent General Practitioners Association.

ArcelorMittal Belgium built a lab on the company premises to analyze the corona test samples. This lab can later also be used to analyze legionella samples and Steelanol bacteria. For this purpose, it cooperated with accredited medical laboratories and the government.



The external labor inspector carried out regular checks on corona compliance within our company. Each department appointed special corona ambassadors to monitor compliance with corona measures.

ArcelorMittal Belgium's IT department developed an app for internal contact monitoring: Corona Contact. If a colleague tested positive for corona, Corona Contact made it possible to identify the specific contacts of the tested colleague even faster and fully automatically, and thus to take more targeted action (e.g., preventive quarantine).

ArcelorMittal Belgium developed a transition plan to review the control measures taken in a phased and safe manner. This plan consisted of four phases, each with some specific concerns:

1. When entering the first phase, all necessary measures were in place to, in a controlled manner, restart some specific and critical works.
2. In the second phase, we reopened the offices and administration building and organised a gradual further phasing out of employees working from home.
3. In the third phase, we again allowed controlled gatherings of small groups (such as for training or specific meetings). In this phase, while respecting social distancing, restaurants were reopened.
4. And finally, gatherings of larger groups were also allowed again such as at factory visits or other events.

The exact timing and content of each phase depended on the evolution of the corona crisis.

## Transition strategy

7/03/2022



Internal communication was further reinforced with (almost daily) newsletters on corona measures, transition strategy, corona infections, return from holiday). A specific 'corona' section was created on the intranet with safety quarters on corona good practices and rules, FAQs, corona figures, videos... Posters with rules were distributed in the production departments to create greater awareness.

ArcelorMittal Belgium made protective equipment available to several hospitals and healthcare institutions in Flanders and Wallonia.

On the health front, we took important steps to become a smoke-free company in 2020. We take a phased and consultative approach, in which personal guidance is very important. Colleagues who want to quit smoking can follow Allen Carr's smoking cessation training or call on our medical service for support in quitting. Several departments can already present great results, such as leader Decosteel 1 in Geel, which has already been smoke-free since October 2006, Decosteel 2 in Ghent (since the end of 2021) and the industrial automation and models department (since the beginning of 2021).

Finally, a reorganisation of the medical service was also implemented during the full corona pandemic. An industrial hygienist was appointed to better document and control exposure to chemical agents. This responds to scientific insights that low exposure to, mainly, carcinogenic substances, is still an important occupational risk. After all, health policy at ArcelorMittal Belgium also means going all out for safe and healthy working conditions.

## **QUALITY IN THE WORKING ENVIRONMENT**

### **Well-being of the collaborators**

There are many new issues coming our way in the coming years, such as "war for talent", sustainable employability, training... We need to find solutions in the context of longer working in a continuous environment, the search for bottleneck professions, the impact of climate change (including hotter summers) on our working conditions, a "nervous" labor market with a need for more and more flexibility, the need for a healthy work-life balance. This calls for tailor-made flexible solutions, supported by technology and addressing individual needs.

### **INCOS**

An excellent example of "customised HR" is INCOS. INCOS is the abbreviation of INsourcing, COsourcing and OutSourcing and thus consists of 3 elements:

- Insourcing means getting work that used to be done by external people back to be done by internal people.
- Cosourcing means deploying people on different projects, in different departments.
- Outsourcing involves bringing in external workers because it is more efficient, more specialised, or sometimes the only solution in some situations

INCOS is about sustainable employability. It aims to maximise our employees' long-term and short-term flexibility and to be creative with their skills and knowledge.

Corona and the 2020 economic crisis made us implement INCOS very quickly. But we will further refine and optimise this initiative in the coming months, as it allows us to be flexible and creative with the skills and knowledge within our company.

### **Diversity and inclusion**



Our company is committed to embracing diversity and inclusion. The population of employees within our company should reflect the profiles in our society. This means:

- more women in manufacturing environments
- more men in departments where mainly women work
- different nationalities and cultures
- different qualifications, diplomas and backgrounds
- all ages
- workers with a migration background
- a wider range of skills and competences
- different orientations
- reintegration of workers with medical disabilities
- ...

When you bring together ideas and talents of employees with different profiles, backgrounds, and experiences, you get a more balanced decision-making approach. Inclusion thus makes us more creative, flexible, and ultimately stronger.

On 8 March 2020, women worldwide were honored as part of International Women's Day. The theme of this edition was #EachForEqual. We too showed our appreciation for the permanent commitment and dedication of our female colleagues to our company. We also focused explicitly on the specific concerns for women in our business environment.

ArcelorMittal Belgium's Management Committee also drew up a Diversity Charter underlining his/her commitment to an inclusive workplace for all. The signing of this charter is an important step towards creating a working environment in which every employee feels at home. It symbolises the concrete actions our cluster is taking to improve diversity and inclusion.

In early 2021, ArcelorMittal Europe - Flat Products launched a campaign around diversity, inclusion, and togetherness. All sites were able to share diversity and inclusion success initiatives, as well as new ideas to promote diversity and inclusion. ArcelorMittal Belgium won two awards. In March 2021, our cluster snatched the top prize with a project to carry out ergonomic adaptations, after the first female operators started working on the TTS-BT2 line in late 2020. In July 2021, ArcelorMittal Belgium took bronze with the project 'Attracting a more diverse candidate pool through innovative recruitment channels' in the category 'Building smarter steel in inclusive workplaces'. The winning project is a partnership with the non-profit organisation JobRoad to attract more diverse candidates.



We have also trained HR management in legislation regarding several topics such as social media use and how employees out their opinions on D&I matters, praying at the workplace, as well as how to avoid biases, humor on the shopfloor and so on.

### **Soft landing jobs**

From 1 March 2020, employees aged 58 or older employed at ArcelorMittal Gent, Genk and Geel can enter a soft-landing job. In concrete terms, this means that employees aged 58 and over can opt for a change of job and/or a change of shift regime (less stressful). Full-time employees can opt for 4/5th employment from the age of 60. A working group has also been launched in Liège to work out measures to keep older employees longer at work.

### **Mutual shift changing**

In the joint working group CAO 104, initiatives are being worked out to make longer working more bearable for employees. In spring 2019, a pilot project was launched whereby employees employed in the full continuous shift system could change their first four nights with a colleague from the early shift and vice versa. In 2020, this project was further rolled out in the other departments. This project is now fully up and running and is gratefully used by a few tens of employees across the organisation.

### **Hybrid working environment**

Very quickly, the corona virus affected the way we work and our relationships with our colleagues. As a result of corona, we switched to a hybrid working environment where homeworking was rolled out broadly and flexibly. Safety quarters were set up around self-care when working from home, ergonomics when working from home, etc. Support was also provided for remote leadership. In Liège, the HR department conducted a survey to evaluate the impact of corona on the well-being of colleagues.

## **Digitalizing HR**

Digitalisation offers unprecedented opportunities, including for HR. A good example is the digitalisation of absence requests and shift scheduling. IT developed two applications for this, the 'ShiftPlanningTool' and the 'Group Calendar'.

At the end of 2020, all employees who did not already have this were allocated a professional e-mail address. General communications concerning safety, personnel matters, training... can thus easily reach everyone. Specific, local communication within the department can also be better supported this way. Moreover, access to e-mail gives all employees the opportunity to be in direct contact with the management and to disseminate important information within a team.

## **Green mobility**

Our ambition is to 'green' our mobility by 20% a year. We promote sustainable commuting and note that our employees are increasingly choosing a sustainable option in terms of mobility. In ten years, the number of bicycle kilometers travelled daily by our colleagues towards our site has doubled. They are also increasingly opting for electric cars, for instance.

The car and bicycle leasing programs within ArcelorMittal Belgium were renewed in 2020. The key points of these leasing programs were:

- Lowering the maximum CO2 limit to 115 g
- Encouraging the choice of cars running on non-fossil fuel
- Facilitate charging infrastructure at our sites for 'plug-in' hybrid and electric cars.
- By the end of 2021, we will have evolved to 100 charging stations.
- Employee choice of contract with reduced mileage.
- Possibility of combining car and bicycle leasing

## **World Class Manufacturing**

World Class Manufacturing (WCM) is the driving force behind continuous improvement. WCM is a solid approach and a strong framework to continuously improve and secure our efficiency. We need to focus on long-term goals and consistently follow our chosen ambition in this, from bronze to silver to gold.

In 2020, two departments achieved the WCM 'silver' award: general services and coking plant. In 2021, another two departments achieved the WCM 'silver' award: the steel shop and the cold rolling mill (annealing and shipping). Congratulations to everyone who contributed to this!

The WCM 'silver' award is symbolically nice as an appreciation for the efforts made, but it is more than a symbol. We note that departments with a solid WCM structure, such as the coking plant and general services, also make great progress in terms of safety results, organisation of preventive maintenance and operational reliability. So WCM does lead to results and improves our business performance.

## Consultation

The openness and accessibility of managers have the greatest impact on the daily activities, motivation, and commitment of all employees. All production departments therefore hold structured work meetings between managers and their employees.

In addition, members of the management committee engage directly in an open dialogue with a group of about 25 employees (twice) a week.

Once a quarter, the management committee organises a Teams communication session for executives in which market conditions and ArcelorMittal Belgium's priorities are explained. At ArcelorMittal Gent and Liège, weekly lunches are also held where executives can engage in dialogue with our CEO on business topics.

## Training

Our employees are our greatest asset. That is why we are strongly committed to career development, offering the necessary training so that our employees can further develop their skills. Employees are also encouraged to take control of their careers themselves and think about their future where we offer numerous opportunities for those who want to progress. In 2020, the number of training hours as a percentage of the number of hours worked was 3.23%. For 2021, this figure was 4.26%

One of the main lessons learned from the corona crisis in 2020 is the importance of training. We note that after almost two years of crisis (economic + corona), we have a large backlog in training our employees. We have established a catch-up program to eliminate this backlog as soon as possible while also modernizing the training offer.

Our catch-up program includes:

- local training in the departments (e-learning, digital training)
- retraining program for production people to mechanics
- training of SAP: safety and preventive maintenance
- take Care training course with a strong focus on practice
- more modular mechanical and electrical courses, considering the trainee's prior knowledge based on e-testing
- training of the social skills
- the digitalisation of training (e.g., crane simulator, e-learning, etc.).



## 02 PRODUCTS THAT ACCELERATE MORE SUSTAINABLE LIFESTYLES

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Like everything else in society, steel must continue to evolve and become more and more sustainable. Our goal is to build a better world with innovative steel products. We use technologically advanced processes that consume less energy, emit significantly less carbon and reduce costs. We produce steels that are purer, stronger and recyclable. Steel for electric vehicles and renewable energy infrastructure that will support society's energy transformation.

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### **We are strongly committed to product innovation**

Our ambition is to produce innovative products with high added value that guarantee a sustainable lifestyle. More than 50% of the products we offer to our customers today did not exist 7 years ago. In 2020 and 2021, we continued our product development program, reaching a number of important milestones.

A few of our innovative products:

#### **Third-generation advanced high-strength steels**

As a major center of excellence for advanced high-strength steels (AHSS) and ultra-high-strength steels (UHSS), we have invested heavily in product innovation over the past years. In total, this involves nearly 250 million euros to produce the 3rd generation of advanced

products through our lines in Belgium such as Fortiform®, Quench & Partitioning steels, Dual Phase High Deformability (DP HD) steels, Martensitic (MS) steels and Jet Vapor Deposition (JVD) coated products.

It concerns investments in a number of breakthrough technologies, such as the Quench & Partitioning furnace technology on the Sidgal 3 Upgrade hot dip galvanizing installation in Ghent, the JVD technology and the HOWAC-TWICE cooling technology on the Kessales continuous filament line. Within ArcelorMittal Europe - Flat Products, these steels are only manufacturable on these two lines, allowing ArcelorMittal Belgium to provide a unique product offer.

The development of this third generation of high-strength steels was essential to meet the expectations of our automotive customers, to reduce the weight of cars, reduce CO2 emissions, increase safety and respond to the challenges in the electrification of cars.

### **Fortiform®**

Automotive parts made with the Fortiform® ultra-high-strength steels are 10 to 20% lighter, more economical and therefore better for the environment. As a result, our automotive customers will be able to reduce emissions from passenger cars. In addition, the sustainable Fortiform® steel is also safer in the event of a car crash.

The 1st group of the 3rd generation ultra-high-strength steels (with a 10% weight reduction) was launched in 2017. Several automotive manufacturers are since using Fortiform® steel in their car models as they offer the best possible compromise between cost, performance (formability) and durability. In 2018 we started the industrialisation of ultra-high-strength steels with a 20% weight reduction. In 2020 and 2021, we made strong progress with the development of Fortiform® 980 and 1180 at Sidgal 3 Upgrade and both steel grades are now at the verge of commercial availability.

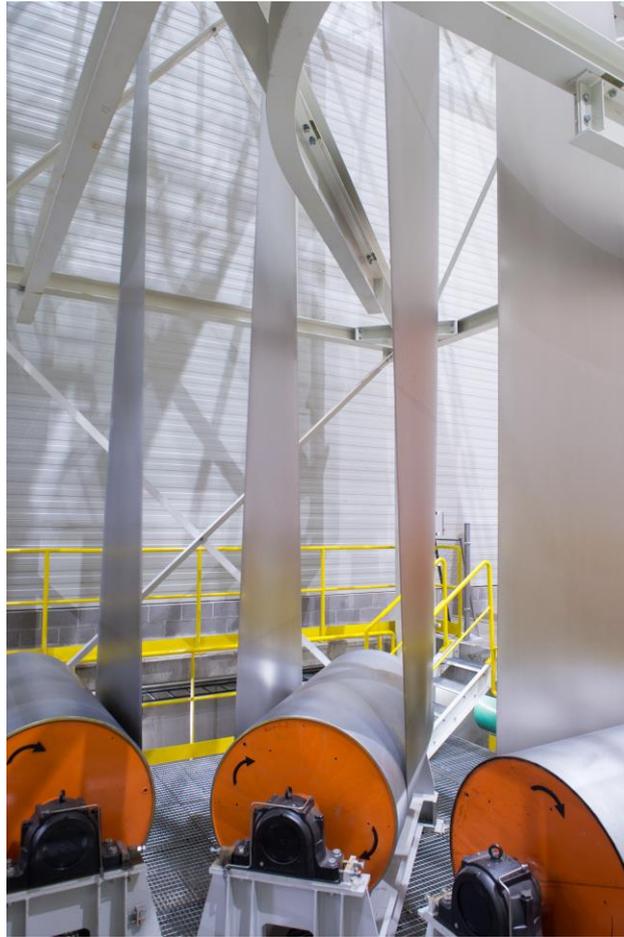
In 2020 and 2021 we expanded our product offer in the group of Dual Phase High Deformability (DP DH) steels, adding both a lower (DP600 DH) and a higher strength level (DP980 DH) to our hot dip coated DP DH portfolio. In the same timeframe, our hot dip coated DP780 DH is being used by an increasing number of customers who like to benefit from the extra formability offered by this grade, while keeping the forming process close to the experience with regular Dual Phase grades.

Our product range in Martensitic steels, manufactured on our continuous annealing line in Kessales (Liège), was also expanded in 2020 and 2021. Martensitic steel grades are ideally suited for roll forming of parts for the reinforcement of the car body and enable to strengthen the battery pack used in electric cars, protecting the batteries in case of a crash.

### **Jet Vapor Deposition**



1 – The heart of the Jet Vapor Deposition line in Liège.



2 – The accumulators of the Jet Vapor Deposition line in Liège.

In 2020 and 2021 a great deal of effort has been invested in the further expansion of the Jet Vapor Deposition (JVD) product range, enabling to offer new steels and extend dimensions.

JVD is a groundbreaking process, both in terms of production process and product development. It adds two new product families to ArcelorMittal's unique range of metallic coatings: Jetgal® and Jetskin™.

- **Jetgal®** is the brand name for the JVD zinc coating applied to steels intended for the automotive industry. Among other things, it has been developed for ultra-high-strength steels such as Fortiform® and MS products, which are produced in ArcelorMittal Gent and Liège.
- **Jetskin™** is the brand name for the JVD zinc coating applied to steel grades used for industrial applications such as domestic appliances, doors, drums and interior applications.

Since 2017, the JVD line produced several hundreds of thousands of tons of vacuum coated steel. This great success is the result of an excellent collaboration between the industrial teams of Liège, the R&D teams of ArcelorMittal and the CRM group. This collaboration has enabled us to overcome technical difficulties, to train production teams quickly and to launch actions to improve the performance of the production line as well as the product quality.

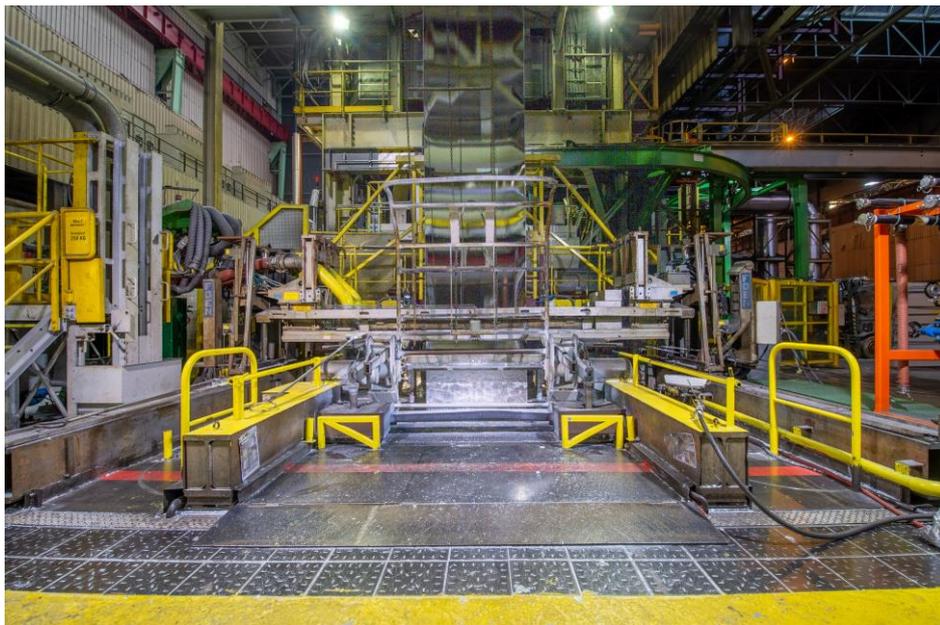
In 2020 a number of additional modifications to the line were carried out, allowing to significantly extend the dimensional feasibility of our product offer and enabling a further ramp-up of deliveries to automotive customers.

### **Amstrong®**

High-strength steels are also being developed in the hot rolled pickled & oiled product range and used for other industrial market segments. Armstrong® high-strength and advanced high-strength pickled & oiled steels produced in Ghent, for example, are ideal for reducing the thickness and weight of constructions while increasing the load capacity. The Armstrong® range offers significant advantages for a wide range of applications such as semi-trailers and tippers, excavators and agricultural vehicles. ArcelorMittal has developed a digital tool to help commercial engineering teams calculate weight and cost savings for customers who are considering switching from standard steel grades to Armstrong®. Since 2018, the share of Armstrong® products in our sales figures has increased significantly thanks to the promotion of our commercial organisation.

In 2020 and 2021, we continued to work with close attention on product improvements regarding flatness as well as expansion of the range of high-strength steels up to 980MPa level for the automotive and industrial markets.

### **Magnelis®**



3 - The zinc bath of Sidgal 1, in which the steel is coated.

The Magnelis® coating consists of a combination of zinc, aluminium and magnesium. The corrosion resistance of Magnelis® is significantly higher than that of traditional zinc-based coatings. The coating was developed in our Eurogal hot dip galvanizing line in Liège and subsequently used industrially in other European hot dip galvanizing lines in Germany and Spain. Magnelis® coated products are used in the supporting structure of solar panels, garage doors, gutters etc.

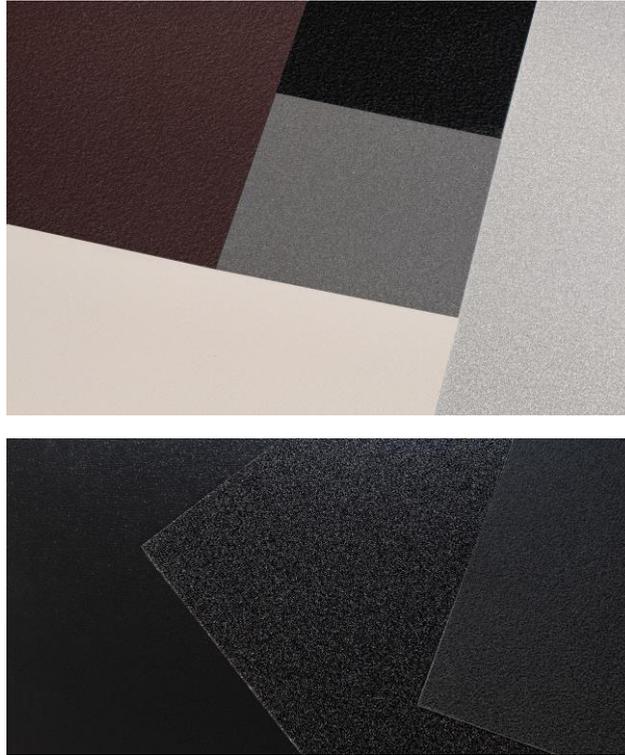
In view of the growing demand for this product, we continued to expand our Magnelis® product range in 2020 and 2021 by developing higher strength levels, by developing thicker Magnelis® coatings and by offering Easyfilm on Magnelis®. In addition, we significantly

increased our production capacity in 2021 by starting Magnelis® production in the hot dip galvanizing line Sidgal 1 in Ghent.

Magnelis® is the product of choice for applications in the solar energy segment. Many of our direct customers produce profiles and structures that are used in various solar energy solutions, such as solar farms, industrial roof panels, concentrated parabolic towers, ... Magnelis® is now used worldwide for mega-projects. For example, ArcelorMittal supplied 20 kt of Magnelis® for a 1.2 GW project in Abu Dhabi. We also supplied Magnelis® coated steel to projects of no less than 1.8 GW (this corresponds to the capacity of 2 nuclear power plants!).

**Granite® HD Xtreme**





With a volume of 700,000 tons of organic coated products per year, ArcelorMittal Belgium leads the way within ArcelorMittal Europe - Flat Products for the production of organic coated steel.

One of our new products with organic coating (pre-painted) is Granite® HD Xtreme. It has a coating system that provides a high degree of protection against UV radiation and corrosion. Granite® HD Xtreme contains no chromates or heavy metals and is 100% recyclable. It is highly durable and has a lower carbon footprint compared to alternative solutions.

The strength of Granite® HD Xtreme comes from its 75µm three-layer coating system. Each layer performs a different but integral function. The primer layer plays a key role in corrosion protection. On top of that comes a second layer, which ensures the durability of the steel and provides the final color. The coating is finished with a varnish layer that adds texture to the coating, increases the durability and robustness of the surface and improves the UV resistance potential of Granite® HD Xtreme.

Granite® HD Xtreme's weather resistance already exceeds the requirements of the latest European standards. Its exceptional UV resistance provides color stability for many years. Extensive experience and testing, including in highly corrosive coastal locations, lead to a long-term guarantee of up to 40 years for Granite® HD Xtreme. The warranty applies to roofs and facades as well as to the installation of photovoltaic modules on roofs. Designed in consultation with architects and designers, Granite® HD Xtreme is available in a huge color palette and three different finishes: satin, matte and shimmering.

**Optigal®**



4 - The team of the combiline in Liège.



5 - An Optigal® plate produced in Ghent.

Our Comiline in Liège (Ivoz-Ramet) is a galvanizing line combined with an organic coating line working in a continuous process. On this Comiline we have been producing Optigal® coated steel for several years now. Optigal® is a new generation of coating substrates, with a unique alloy composition of zinc, aluminium and magnesium, which ensures superior corrosion resistance and makes it possible to reduce the thickness of the metallic coating and thus helps to safeguard scarce natural raw materials.

In 2021 we expanded our capacity in Optigal®, by further increasing the share of Optigal® on the Comiline and by starting up Optigal® on the hot dip galvanizing line Sidgal 2 in Ghent.

Optigal® has already been approved by most of the independent European certification bodies, such as CSTB and DIBt, and can be used throughout the European market. It is also

fully compliant with the REACH regulations. The production of Optigal® is rising year after year.

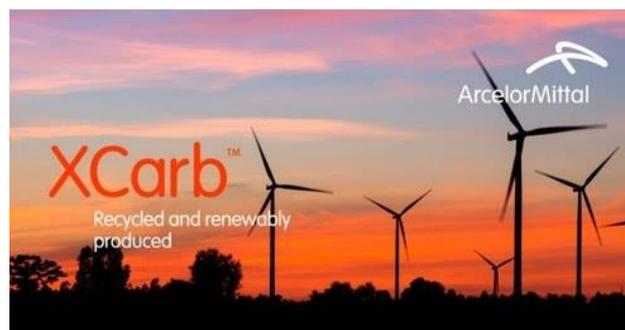
### **XCARB®: our commitment to produce carbon-neutral steel**

Our customers are increasingly climate-conscious and demanding green steel. To this end, ArcelorMittal Europe has developed the XCarb® concept, in which CO2 reduction is converted into an equivalent volume of green steel.

XCarb® will eventually bring together all ArcelorMittal's products and steelmaking activities with reduced, low and zero carbon emissions, as well as broader initiatives and green innovation projects, into a single effort aimed at achieving demonstrable progress towards carbon-neutral steel. Specifically, it involves 3 XCarb® brand initiatives:



6 - Pioneering 'XCarb® green steel certificates' offer customers Scope 3 emission reductions



7 - 'XCarb® recycled and renewably produced' provides an innovative product to the customer with CO2 emissions as low as 300 kg/ton.



8 - XCarb® Innovation Fund' invests in companies developing breakthrough technologies that will accelerate the transition to carbon neutral steelmaking.

### **XCarb® green steel certificates**

Across all ArcelorMittal Europe - Flat Products activities, we invest in a wide range of initiatives to reduce carbon emissions from blast furnaces. These initiatives include our

'Smart Carbon' flagship projects, such as Torero (which converts biomass into biocoal to replace coal in the blast furnace) and Steelanol (which captures carbon-rich blast furnace gas and converts it into bioethanol, which can then be used to make low-carbon chemicals). Another example is capturing hydrogen-rich residual gases from the steelmaking process to inject them into the blast furnace to reduce the use of coal.

These effort-intensive investments lead to significant CO<sup>2</sup> savings, which can be passed on to customers in the form of the steel industry's first-ever certification system. CO<sup>2</sup> savings are aggregated, independently insured, and then converted into XCarb® green steel certificates based on a conversion factor that reflects the average CO<sub>2</sub> intensity of integrated steel production in Europe. The system thus allows customers to purchase certificates added to their physical steel orders, allowing them to report a reduction in their Scope 3 carbon emissions in accordance with the 'GHG Protocol Corporate Accounting and Reporting Standard'.

### **XCarb® recycled and renewably produced**

'XCarb® recycled and renewable produced' is designed for products manufactured via the Electric Arc Furnace (EAF) route using steel scrap. 'Recycled and renewably produced' means that the physical steel is made from recycled material (scrap) using renewable electricity, giving it an extremely low carbon footprint that can be as low as about 300 kg of CO<sub>2</sub> per ton of finished steel when the metal is 100% scrap. This offer to the customer applies to both flat and long products. The electricity used in steel production is independently verified and given a 'Guarantee of Origin', assuring it originates from renewable sources.

### **XCarb® innovation fund**

ArcelorMittal has established an innovation fund that will invest up to \$100 million annually in innovative companies developing breakthrough or groundbreaking technologies that will accelerate the steel industry's transition to carbon-neutral steel production. To be eligible for funding, companies must develop technologies that will support ArcelorMittal on its path to low-carbon steel production. The technology must also be commercially scalable.

In 2020, ArcelorMittal Europe launched 30,000 tons of green steel, and in 2021 the share of green steel was 120,000 tons. For 2022, the target is 600,000 tons of green steel.



## 03 PRODUCTS THAT CREATE SUSTAINABLE INFRASTRUCTURE

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Changes in mobility, urbanisation, global infrastructure are among the major megatrends of this century. Society's response to climate change as a fundamental driver of these megatrends requires sustainable solutions to which steel can provide an excellent response and in which steel can undoubtedly continue to play an essential role.

ArcelorMittal is committed to developing sustainable steel solutions for applications in construction, transport and (traffic) infrastructure works.

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### **Sustainable steel products for the construction industry**

Changes in mobility, urbanisation, global infrastructure are among the major megatrends of this century. Society's response to climate change as a fundamental driver of these megatrends requires sustainable solutions to which steel can provide an excellent response and in which steel can undoubtedly continue to play an essential role.

ArcelorMittal is committed to developing sustainable steel solutions for applications in construction, transport and (traffic) infrastructure works.

## **Steligen®: sustainable and intelligent construction**

Steligen® considers buildings as integrated, almost 'living' entities, embedded in the urban environment. In this context, it suggests that broader and more transparent collaboration between architects, engineers and property developers is called for to fully enable the potential to resolve the apparently competing demands of creativity, flexibility, sustainability and economics.

### **Advantages**

By comparing a typical eight-storey office building in Europe, built using traditional construction methods, with an optimised building designed using the Steligen® approach, ten key benefits emerge:

1. Optimal space and height
2. More flexible office space
3. Lighter weight foundations
4. Speed of construction
5. Reduced cost of ownership
6. Lower environmental impact
7. Higher sustainability ratings
8. Improved comfort
9. Greater creativity
10. Less site traffic



9 - Greg Ludkovsky, head R&D ArcelorMittal.

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"We developed the Steligen® concept because we fundamentally believe that we can help architects, engineers and property developers to collaborate to build more sustainable, cost-effective buildings."

**- Greg Ludkovsky, Head of Global Research & Development ArcelorMittal**

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## **New INDI-building at ArcelorMittal Gent**

The new INDI building in Ghent is in use since 2020 and houses 220 employees of ArcelorMittal Belgium's digitisation teams. INDI stands for INDUstrial Innovation. The design pushes architectural boundaries with innovative steel solutions. The building was constructed entirely according to the Steligence® concept and meets the strict requirements of sustainable building systems. It goes without saying that we deployed our own steel products here to the maximum extent possible:

- One of our latest organic clad products, Granite® HDXtreme, was used for the building's cladding.
- In addition to the aesthetic Granite® HDXtreme facade, the building features ArcelorMittal's new Promisol S Hybrid® sandwich panels that provide good airtightness and a high level of insulation.
- Angelina® beams allow for long spans and thus large, column-free spaces.
- Composite floors of the Cofraplus® type are made of trapezoidal steel plates with open ribs for shuttering and reinforcing concrete floors.
- Our Magnelis® product was used for the lighting posts.
- The blast furnace slag, a by-product of the nearby blast furnace, was used as gravel for the parking lots and, after descaling, also as a foundation for the asphalt parking lot.
- Moreover, in the INDI building we find ArcelorMittal steels in the LED lighting and in the steel climate ceilings.

In addition, smart building solutions have been used here to improve recyclability or reuse. For example, radio frequency identification (RFID) tags were placed in the sandwich panels and cladding cassettes. The tags contain detailed information about each specific building element and can be read with a scanner.

A new standard of office comfort is set for the users of the building. There is sustainable heating and cooling thanks to a geothermal system that uses ground energy to maintain a constant temperature throughout the year. The spaces are open, flexible and filled with natural light. On dark days, smart LED lighting provides artificial lighting and maximum energy efficiency.



10 - The new INDI building in Ghent.



11 - The new INDI building in Ghent.



12 - The new INDI building in Ghent.

### **Granite® HFX Cool and Magnelis® for standing seam roofs**



13 - An example of a standing seam roof.

The landscape in many European cities and towns is characterised by standing seam roofs. They are manufactured from flexible metals and are an ideal solution for the roof shapes of apartment buildings and public buildings, where every millimetre of space under the roof must be used. Standing seam offers a high degree of wind resistance and excellent waterproofing, making it a popular roofing solution today. Organically coated steels such as ArcelorMittal Belgium's Granite® HFX Cool family offer the necessary pliability, combined with a wear-resistant finish guaranteed for up to 20 years.

To achieve the double standing seam, roofers need flexible materials. For complicated roofs with many dormers and chimneys, the work must be done on site and at height. Our new Granite® HFX Cool Matt product processes well and can be formed at temperatures as low as -10°C.

Magnelis® steel from ArcelorMittal Belgium is also used for standing seam roofs. Architects like the patina that darkens over time. In addition, Magnelis® has minimal reflection, making it suitable for low buildings. For roofs, Magnelis® in a thickness of 0.6 mm is usually used; this offers roofers the flexibility they need, and long-term protection against corrosion.

## Ultra-high-strength steels: an asset for high-rise racks

The growth of e-commerce businesses and the increase of robotisation demand increasingly smarter solutions for warehouses. The specific thing about high-rise racks is that they are an integral part of the structure of the building and that they often also support the outside of the building.

The use of ultra-high-strength steels for the construction of racks (both uprights and beams) contributes to lower material consumption (less steel and lower costs). In addition, it allows longer spans, thus freeing up more functional space in the racks. ArcelorMittal Belgium supplies various European companies that produce profiles for high bay racks.

## Granite® HDX: aesthetics, sustainability and protection

The Granite® HDX organic coating is designed for roofing, cladding and architectural applications where climate conditions are demanding. The product is part of ArcelorMittal's Nature range of organically coated steel for construction solutions and is free of heavy metals and chromates. Examples of applications of Granite® HDX are the facades of the Stoas Vilentum University of Applied Sciences in Wageningen and the Arcus College in Heerlen, both in the Netherlands.

## Sustainable steel products for the transport sector

### Steel pipeline for the transport of oxygen to ArcelorMittal Gent



14 - Steel pipeline for the transport of oxygen to ArcelorMittal Gent

In September 2019, a new oxygen pipeline was commissioned to supply liquid oxygen to our site in Ghent. The underground pipeline, which was built and is being operated by Air Liquide, starts in Temse and ends on the ArcelorMittal Gent site. Thanks to this pipeline, 100 truck drives to ArcelorMittal Gent are avoided daily.

ArcelorMittal Gent entrusted the production of the pipeline to Corinth Pipeworks, which in turn used steel from ArcelorMittal Krakow (Poland) for the production of the pipes. Steel

grade L360NE was chosen on account of its excellent tensile strength and roughness. These properties are achieved thanks to the low phosphorus and carbon content in the steel.

### **25% lighter trailers thanks to our steel solutions**

Trailtech is a showcase of steel solutions for the chassis of freight trailers, developed by ArcelorMittal Europe - Flat Products. It makes semi-trailers up to 25% lighter and reduces emissions and fuel consumption.

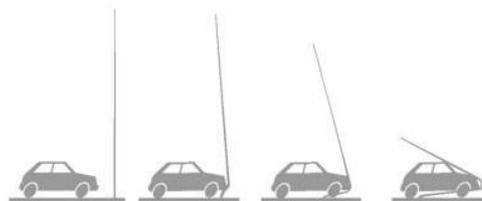
The ArcelorMittal Trailtech showcase is based on the Armstrong® range, produced at ArcelorMittal Belgium. By using an optimised combination of high and ultra-high strength steels from the Armstrong® and Armstrong® Ultra ranges, Trailtech demonstrates that the weight of existing chassis can be reduced by a quarter without affecting performance. The achieved mass savings reduce fuel consumption and can result in an annual CO2 saving of 4,000 kilograms for each trailer. The weight reduction can also be used to increase the payload of the trailer. And the high-strength steels allow manufacturers to make longer beams that run the full length of the chassis.

Together, these benefits significantly reduce the number of welds required, positively impacting emissions and welding costs. ArcelorMittal's generic Trailtech solution makes extensive use of Armstrong® 500MC and Armstrong® Ultra 700MC - high-performance steels that resist fatigue - even with the heavy use that trailers endure.

Since the transportation sector is a major contributor to emissions in the European Union (EU), Trailtech can have a significant impact and help achieve the goals of the European Green Deal.

## **Sustainable steel products for transport infrastructure**

### **Steel crumple poles**



15 - An illustration of how steel crumple poles function.

Advanced high-strength steels such as Magnelis® are also used to create safe lighting poles for road infrastructure. In the event of a collision with a so-called crumple (“zip”) pole, the conical pole transforms into a soft strip of steel. The base of the pole remains anchored in the ground while the steel strip bends and wraps or zips around the car. This reduces the impact in the event of a collision. Magnelis® is an exceptional coating that offers up to ten times better corrosion protection compared to standard galvanised products. ArcelorMittal guarantees a service life of 25 years for Magnelis® products in lighting poles.

## Steel crash barriers for motorways



16 - Steel crash barriers.

The use of ultra-high strength and low alloy steels in combination with the Magnelis® metal coating provides more safe and long-lasting crash barriers. The Magnelis® coating consists of zinc, 3.5% aluminium and 3% magnesium and protects the crash barriers against corrosion while maintaining the mechanical properties. Magnelis®, which uses less zinc than pure zinc coatings and therefore significantly reduces the runoff of zinc into the soil, has a 20-year guarantee for crash barriers. The edges of Magnelis® coverings repair themselves even when they are damaged - a property.



## 04 THE EFFICIENT USE OF NATURAL RESOURCES AND HIGH RECYCLING RATES

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### OUR ENVIRONMENTAL CARE

We have had an environmental management system in place since 2001 that meets the requirements of the international standard ISO 14001. The environmental management system obliges us to take a structured approach to our environmental care, starting with the identification of the important environmental aspects to which we must pay attention. Our environmental management system is audited each year by an external independent organisation that assesses whether we continue to meet all standard requirements and whether we continue to improve on our environmental management. The ISO 14001 certificate provides a guarantee to all external stakeholders, such as local residents, surrounding companies, authorities, suppliers, and customers, that 'sustainable development' is not a hollow phrase for us.

### OUR ENERGY CARE

We have had an Energy management system in place since 2017 that meets the requirements of the international standard ISO 50001. The energy management system obliges us to take a structured approach to our energy care. Our energy management system is audited each year by an external independent organisation that assesses whether we continue to meet all standard requirements and whether we continue to improve on our

energy management. The ISO 50001 certificate provides a guarantee to all external stakeholders, such as local residents, surrounding companies, authorities, suppliers, and customers, that 'energy efficiency' is not a hollow phrase for us.

## 1. By-products, residues, and waste materials



We strive towards converting all substances that are produced and used during the production of steel into products that can serve as raw materials in other industries or that have a useful application in the steel industry itself.

### 1.1. By-products

By-products are materials that are either reused as a raw material or used as a synthetic end product as an alternative to e.g., natural stone.

#### 2.1.1 SLAG

An important source of by-products is liquid slag formed at high temperatures in our steel production process.

The slag that is formed in our blast furnaces is granulated into blast furnace sand by means of powerful water jets. The cement industry mixes this granulated blast furnace sand with cement clinker to produce metallurgical cement (CEM III). This is used in concrete for hydraulic engineering pillars and for applications where rapid hardening of the cement is required. A small proportion of air-cooled blast furnace

slag is used in road construction as a foundation material and as a basic raw material for the production of insulation wool.

LD slag is produced in the steel shop. After deferrisation, this steel slag is sieved into different grain sizes, to convert them into commercial end products. LD slag can be used for sustainable paving of, for example, car parks and roads. Coarser fractions of more than 32 mm are a valuable option for broken gravel and for hydraulic engineering works. Part of the finer fractions, smaller than 10 mm, is recycled via our sinter plant in the blast furnace, as a substitute for limestone.

#### 2.1.2 GASSES

We separate tar, benzol and sulphur from the coke oven gas in our by-products' facilities. Once separated, they are used as raw materials in the chemical industry.

Coke oven gas, blast furnace gas and converter gas are all to be used as fuel in our production processes, as a substitute for natural gas. What we are unable to use ourselves is sent to ENGIE's neighbouring power station to be converted into electricity.

## 2.2 Residues

Residues are mainly residues containing ferrous oxide and carbon which are inevitably formed during our production process, and which are separated from a gas or water flow in our dust separator or water treatment plants.

#### 2.2.1. RAW MATERIALS

We strive to maximise the re-use of our residual materials, considering process-technical requirements and a possible impact on the environment. By reusing materials, we make more efficient use of natural resources, save on expensive raw materials, and avoid having to dispose of them in landfills.

#### 2.2.2 SCRAP

Both internally recycled and externally purchased scrap is melted down in the converter of the steel shop, where we produce liquid steel which is subsequently solidified into steel slabs. All external scrap deliveries are checked by specialised controllers for non-conform scrap and non-ferro materials. All approved deliveries are unloaded on the scrap yard, from where the material is loaded in scrap transports as required by the steel shop.

Since 2021 a scrap cleaning machine, operated by Oxytec, is active on site. The goal of this step is to upgrade the quality of certain types of scrap by screening and metallic separation before being sent to the scrap yard for further processing.

## 2.3 Waste materials

Waste materials are materials that cannot easily be reused. We collect them selectively. Most waste materials are recovered by accredited processors. Only a relatively small quantity is dumped or incinerated. Some examples:

### 2.3.1 WOOD

We selectively collect clean and pure wood waste from, for example, packaging. This wood waste is then to be used as a raw material to produce chipboard.

We will also soon process wood waste into biocoal at the Torero plant, currently under construction at our Ghent site. We will eventually inject this biocoal into our blast furnaces. This will reduce the injection of fossil pulverised coal, lower our CO<sub>2</sub> emissions, and provide a solution to a particularly difficult waste stream.

### 2.3.2 PMD

We collect PMD selectively to give it a new life through recycling.

### 2.3.3 CONVERTER SLUDGE (STEEL SHOP)

Converter sludge comes from the wet gas scrubbing of the converter gas. The coarse converter sludge (from the pre-settling tank) is converted into briquettes, which are reused in the converter (to replace scrap). The fine converter sludge (from the settling tank) is first pressed into 'cake' and then partly used internally as a raw material (via the pre-bedding of the sinter plant). The part we cannot recycle internally is used as waste with recovery in the cement industry where it is used as a raw material for clinker production.

### 2.3.4 SLEEVE FILTER DUST (SINTER PLANT)

The sleeve filter dust comes from dedusting in the sinter plant. As no internal or external useful application has been found at present, we are obliged to dispose of this waste stream in a landfill.

## WEAPONS COLLECTION CAMPAIGN

STEEL IS 100% RECYCLABLE

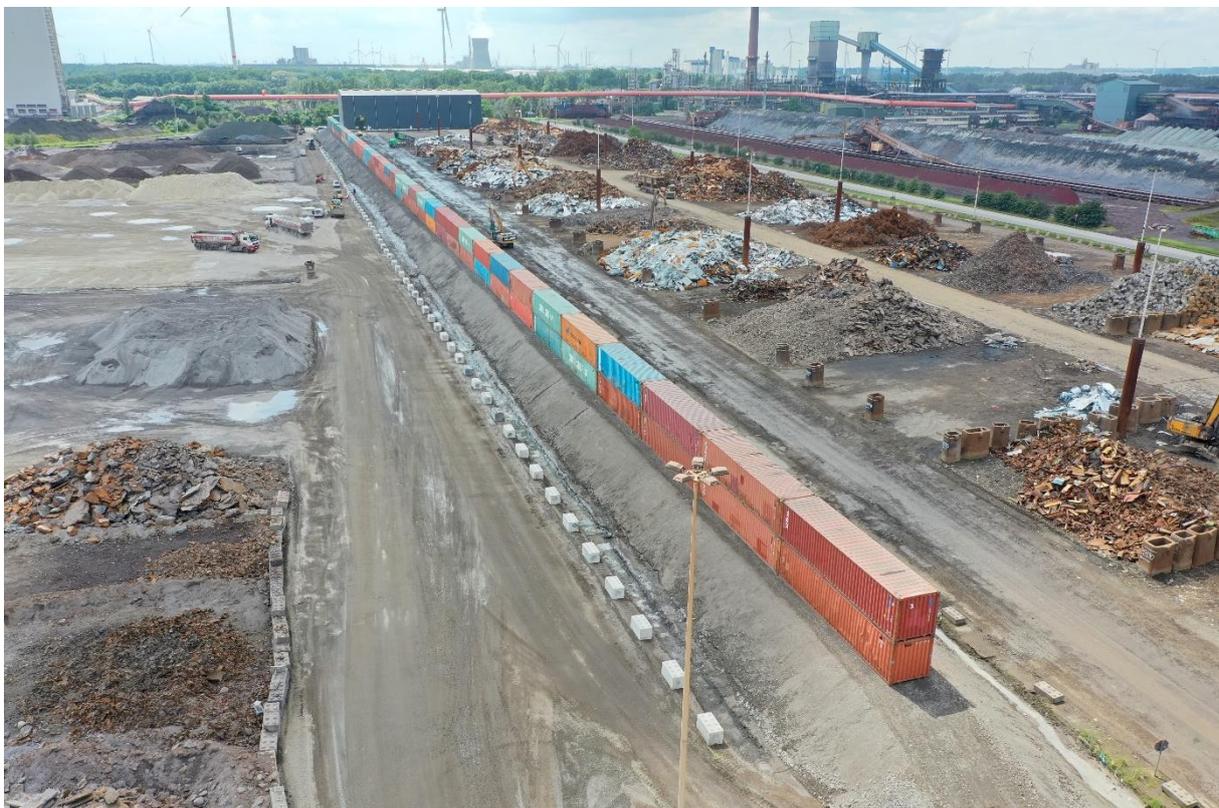


In April 2021, more than 22,457 firearms were collected nationwide and permanently destroyed at ArcelorMittal Gent's steel shop. Thanks to a collaboration between the federal and local police, Defense, the Federal Office of the Governor of the Province of East Flanders, and ArcelorMittal Gent, more than 60 tons of firearms disappeared permanently from our society. They were recycled into finished steel products.

This initiative shows that steel is a unique and sustainable base material in that it is endlessly recyclable, with no loss of quality. Around 20 per cent of our final product consists of recycled scrap. Every year, we melt down more than 1 million tons of steel scrap. Every ton of steel produced today sooner or later returns to our steelworks in the form of scrap. And in the future, we also want to recirculate and revalorise many other waste streams in our process, just think of waste wood or plastics. It nicely illustrates how steel is the cornerstone of a circular economy.

## NOISE WALL

### MONITORING AND COMBATING NOISE



In the spring of 2021, the construction of a noise wall along the scrap zone, the area where recycled steel scrap is stored before being melted down in the steelshop, began. The trigger for the construction of the noise wall were reports from local residents in Sint-Kruis-Winkel about noise pollution when scrap metal was loaded or unloaded. In anticipation of the construction of a noise wall, there was also close cooperation with the contractors on the site to jointly agree on "whisper loading", which involves bringing the grab to the ground surface for loading and unloading.

Two layers of containers were placed on a berm of reclaimed material. The sound wall is no less than 9 meters high and 500 meters long. It was completed in June 2021 and immediately after completion, positive results were noted in the noise measurements we

carry out daily: an almost 90% drop in the number of aircraft reports. Of course, the remaining reports are also still being investigated further in consultation with our contractors.

## CARBON2VALUE

### AMINES SEPARATE CO & CO<sub>2</sub> FOR FURTHER PROCESSING



In recent years, ArcelorMittal Belgium and Dow Benelux have carried out trials with a new pilot plant on ArcelorMittal's premises in Gent that separates carbon dioxide (CO<sub>2</sub>) and carbon monoxide (CO) from the gases produced during steel production. The separated and concentrated CO<sub>2</sub> is thus made suitable for Carbon Capture and Storage (CCS or storage), or Carbon Capture and Utilisation (CCU or utilisation) and the CO can be converted into valuable products by Dow and ArcelorMittal.

On 22 June 2021, the online final event of the Carbon2Value (C2V) program took place. During this symposium the five-year C2V project was concluded and results of pilot studies by ArcelorMittal, Dow and LanzaTech were presented. The main conclusion: the program to convert the carbon waste stream from the steel industry into building blocks for the chemical industry does indeed deliver value. The connection between the steel and the chemical industries will significantly reduce the emission of greenhouse gases.

# STEELANOL AND TORERO

## BLAST FURNACE GAS BECOMES BIO-ETHANOL



In April 2021, ArcelorMittal Belgium has marked a major milestone in the construction of its pioneering Steelanol project, with the arrival and lifting of four giant bioreactors at the Gent steel plant. The bioreactors, which will convert industrial gases captured during the steelmaking process into sustainable ethanol, are the central element of the installation.

The Steelanol plant, the first of its kind in Europe, will produce 80 million litres of sustainable ethanol a year, equivalent to nearly half of actual Belgium's annual demand in a market for renewable ethanol with a large growth potential. The sustainable ethanol produced at the Steelanol plant can be used as fuel for transport or as a building block for producing chemicals.

With commissioning and first production expected in 2023, this marks an important step towards the circular use of carbon and the end of single-use carbon, whereby gases are no longer regarded as waste but as raw materials. In addition, the recycling of carbon means Steelanol's process of ethanol production does not compete in any way with food crops or land for food crops, as is the case for 'traditional' ethanol.

The process implemented at this site, can not only use industrial gases from today's steel production methods, but is fully flexible and can adapt as industry transitions to future steel production technologies with increased green hydrogen input. This enables the carbon recycling application to evolve as available residue and waste streams evolve.

The technology was developed by LanzaTech, with whom ArcelorMittal has entered a long-term partnership, together with Primetals Technologies and E4tech.

## PROCESSING WOOD WASTE INTO BIOCOAL

The Torero plant will convert wood waste into biocoal suitable for utilisation in the blast furnaces. Using biocoal into our blast furnaces will allow us to reduce the injection of fossil pulverised coal, thus reducing CO<sub>2</sub> emissions. This also offers an alternative to the current incineration of this particularly difficult type of waste.

The technology of the torrefaction process has been developed by the company Torr-Coal, the waste wood will be supplied by Renewi. Commissioning and first production are expected by 2023.

## PERPETUAL NEXT REPLACING FOSSIL COAL WITH BIOCOAL

In August 2021, ArcelorMittal Gent announced the start of a pilot project to use biocoal as a high-quality partial replacement for fossil coal. The biocoal is being responsibly sourced from Dutch company Perpetual Next, which produces the biocoal using its patented high temperature torrefaction technology. The partnership with ArcelorMittal in Ghent starts with an initial delivery of 30,000 tons of biocoal to the Ghent blast furnace, which can be scaled up to 350,000 tons of biocoal on an annual basis.

## LIFE SMART STEELMAKING WITH ALTERNATIVE REDUCTANTS



In April 2021, ArcelorMittal Belgium launched a new project “SMART: Steelmaking with Alternative Reductants”. The LIFE SMART project is an innovative technique to reduce emissions by recycling end-of-life plastics and other waste.

In the steelmaking process, so-called ‘reductants’ are needed to transform iron ore into hot metal. The LIFE SMART project allows us to replace fossil carbon-containing reductants

such as coal with circular waste-based reductants. To this end, Vanheede Environment Group, an integrated environmental company located in Belgium, will supply ArcelorMittal with SRF (solid recovered fuel) AlterCoal pellets. These pellets are a mixture of organic waste, household waste and plastic with a high energy value. These AlterCoal pellets will be transformed into metallurgical coke and into pulverised coal. Both take on the role of reductant and energy source in the blast furnace. By reducing the use of fossil carbon, we will be able to reduce our CO<sub>2</sub> emissions and provide a solution for particularly difficult waste streams, such as plastics. The SMART project is yet another step forward in our ambition to become the sustainable steel plant of the future, the cornerstone of a circular economy.



## 05 TRUSTED USER OF AIR, LAND AND WATER

ArcelorMittal Belgium's environmental performance is among the best in the European steel industry. Approximately 10-15% of our annual investment budget is allocated to environmental investments. Our approach has been rewarded several times with various awards and with the Voka Charter for Sustainable Business. We see this as recognition for our efforts and an incentive to continue the path we have chosen.

### DUST CONTROL

Dust control is a top priority in our environmental policy. As a result of the many investments we have made, our dust emissions today are only 15% of the dust emissions of the early 1990s.

### OUR PROJECTS

A dust study, for which we commissioned VITO (2005-2006), demonstrated that diffuse emissions are particularly likely to affect the air quality in the environment of our site. In the last few years, we have therefore paid special attention to controlling this specific type of emissions. We bundled all improvement actions within a dust reduction plan running over several years, made interim adjustments and supplemented the plan with new measures. Some of our achievements:

<p>New harbour cranes with more effective sprinkling system and wind screens.</p>	<p>Construction of a 10 m high and 870 m long dust barrier/wind dike along the Ghent-Terneuzen canal to prevent wind erosion of the coal yards. The wind dike was completed mid-2019. Construction of a second dust barrier/wind dike along the Kennedylaan to reduce dust emissions towards Sint-Kruis-Winkel (2021).</p>
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<p>The application of a coating (incrustator) on the piles of raw materials in dry and windy weather and placing dust barriers to prevent wind erosion.</p>	<p>A thorough sweeping programme to keep the roads within our site dust-free.</p>
<p>In 2017, we installed a sleeve filter installation on the casting floor of blast furnace B (€11 million). We converted and expanded the dust filter installations in our sinter plants. A new hybrid filter was commissioned in sinter plant 1. At sinter plant 2, we commissioned a sleeve filter (amounting to a combined EUR 21.5 million). The investments led to a sharp reduction in guided dust emissions since 2018, 75% of which comes from the sinter plants.</p>	<p>An alert system in accordance with the weather conditions.</p> <p>Introduction of a color-coding system at the raw materials department to avoid dust emissions in adverse meteorological conditions (2020).</p> <p>We continued efforts to improve air quality, including the installation of a waste gas recirculation system at the sinter plants commissioned in mid-2021 (13 million). Moreover, in May 2022 A new hybrid filter (combination of electrostatic and bag filter) was commissioned at the cooler of sinter plant 2 (1 million €). Thanks to these investments the dust load emitted will be halved compared to previous years.</p>



## MONITORING EMISSIONS

All other emissions, such as NO<sub>x</sub>, SO<sub>x</sub> and dioxins, are carefully monitored by means of an intensive internal measurement programme. It enables us to monitor the proper exploitation of the production and purification installations and make immediate adjustments when necessary. As far as the NO<sub>x</sub> and SO<sub>2</sub> emissions are concerned, we also take proactive steps by carefully selecting raw materials with a relatively low level of nitrogen (N) and sulphur (S).

We invested in a new 'state-of-the-art' back-up desulphurisation plant (29 million euros) in the coking plant, so that we can switch to a new fully-fledged back-up plant with greater desulphurisation capacity as from autumn 2023, in the event of a maintenance shutdown of the existing desulphurisation installation of the coking plant.

## SOIL

11/2008 Blast furnace 6 at Seraing is shut down.	12/2016 Blast furnace 6 at Seraing is demolished. The terrain will be cleared after which the soil decontamination will take place. The terrain will become part of an urbanisation project of the city of Liège. The demolition and remediation are in line with the global agreement signed in February 2014 between the Walloon Region and ArcelorMittal. Phase 1, i.e., the soil decontamination of the undeveloped areas, has been completed.	Since 2018, soil studies for the implementation of phase 2 have been conducted. The land is part of a large-scale redevelopment project in line with the city of Seraing's master plan.
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As part of the renewal of the Marchin environmental permit (HP5), a soil study was carried out. The conclusions on the actions to be taken are expected in 2023.

## WATER

The steel production process requires enormous amounts of water, which is used as cooling water, as process water and for environmental applications. As water is a natural resource, we use it with the utmost care.

### THE ROLE OF WATER IN OUR PRODUCTION PROCESS

COOLING WATER	PROCESS WATER	ENVIRONMENTAL USE
It is important to cool our installations as our production process involves high temperatures. We, for example, cool the	Process water is used in our production process itself. This involves for example the water that we use to extinguish coke, to granulate blast	We also use water for dust control (for the spraying of unpaved roads in dry weather and in the sprinkling installations on harbour cranes when unloading dust-sensitive raw materials)

motors of the sinter plants, the shell of the blast furnaces, the converter of the steel shop and the rolling stands of the hot strip mill.	furnace slag into blast furnace sand, to remove the oxide scale of the steel slabs in the hot strip mill as well as the water that we convert into steam.	and in the gas scrubbing installations of the blast furnaces and the steel shop.
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### ArcelorMittal Liège

The water used by ArcelorMittal Liège for the production process and for the cooling of its installations comes mainly from the Meuse and its tributary, the Hoyoux, as far as our Marchin production site is concerned. The water is purified after use and checked before it is rejected to the Meuse or the Hoyou.

In recent years, we have continued to invest in the Kessales and Marchin wastewater treatment plants so that the quality of industrial wastewater continues to meet all the standards imposed by our environmental permits for discharge into surface water (Meuse and Hoyoux).

As part of the authorisation for the 'La Chatqueue' external landfill site in Seraing, the water collected will be rejected to the Cornillon stream. This process is continuously measured and the quality of the water at this stage is of such quality that no additional treatment is required.

Water treatment plants have been equipped with new instruments for measuring wastewater, which make it possible to increase the reliability (calibration, maintenance, implementation). A new data backup system has also been put in place in place.

### WASTEWATER TREATMENT PLANT

On September 20, 2022, Eurogal-Ramet's new wastewater treatment plant, which has been operational since the end of May, was officially inaugurated. The new plant guarantees the treatment of wastewater from the cleaning of cold rolled coils as well as from the demineralisation plant, according to the strictest environmental standards. In fact, the plant has been developed to comply with regulations that will be imposed in the future, with a view to protecting flora and fauna. Independent checks are carried out periodically and on a random basis. These check both the physical (temperature, quantity, flow rate, etc.) and chemical (conductivity, pH, etc.) properties of the water sent to the Meuse. Moreover, the water to be treated no longer needs to be transported several kilometers to another location, so the risk of contamination in the event of a leak is significantly reduced.

### ArcelorMittal Gent

The main source of water for the Ghent site is the Ghent-Terneuzen canal. The canal water is pumped up to the north of the company grounds and goes in counter-current through the production process to ultimately be returned to the canal further south, after treatment in wastewater treatment plants, so that the applicable discharge standards are respected. Every cubic metre of water we pump up is reused about 25 times.

In the past we also used groundwater for a few applications. Today, most groundwater is only pumped up for safety reasons. For example, in some places within our site we must keep the groundwater level low as contact with liquid hot metal from the blast furnaces or liquid steel from the steel shop could cause an explosion. In order not to lose this groundwater afterwards, we use it in a few quality-critical applications.

As such, in 2022, we didn't extend the permit for artesian ground water extraction since we don't need it anymore.

### 14 million euros of additional investment in air emissions in sinter plants



Our sinter plants invested as much as 14 million euros in sinter plant 2. The waste gas recirculation on the baking side of the sinter plant was put into service in mid-2021, and the existing dust filter on the cooling side of the sinter plant was converted into a hybrid filter, another important step in further reducing our guided emissions (= emissions released into the environment via the chimneys) of dust, NO<sub>x</sub> and SO<sub>x</sub>

- Sinter Plant 2 started up waste gas recirculation in mid-2021. Sinter Plant 2 has two dust removal units in series, i.e., an electrostatic filter followed by a sleeve filter. The entire flue gas flow is first passed through two parallel and similar electro filters and then post-treated by a sleeve filter, which is designed to treat about 70% of this flue gas flow. This waste gas recirculation aims to recycle 30% of the flue gas produced and was implemented in mid-2021 after an extensive research and design phase in collaboration with ArcelorMittal R&D, started in 2018. This flue gas recirculation branches in downstream of the electro filter and upstream of the sleeve filter and provides return and recovery for flue gases to minimise sleeve filter bypass.
- The objective of this project, which represents an investment of 13 MEUR, is to reduce the in-situ formation of fuel NO<sub>x</sub> by reducing the oxygen content in the process air, which results in a change in the combustion characteristics of the fuel. Moreover, fuel consumption also decreases significantly linked to product quality improvements through recirculation of low oxygen flue gas approx. 5%. Due to the lower fuel consumption and lower flue gas flow rate, this means a reduction of approx. 20% in NO<sub>x</sub> and SO<sub>x</sub>, for the same type of fuel.

At the same time, dust emissions are also falling sharply since most of the flue gases have since been treated in the sleeve filter.

We are the first site within the ArcelorMittal Group to achieve these targets.

- The cooling side of Sinter Plant 2 followed in early 2022 with the conversion of the electro filter to a combination of electro filter with sleeve filter installation in 1 housing, a so-called hybrid filter. By combining an electro filter and a sleeve filter, we have brought down our dust emissions at this chimney by a factor of 10 and our dust emissions are below 5 mg per Nm<sup>3</sup>.

These investments will further reduce our guided emissions. We predict that our global dust emissions, 60% of which come from the sinter plants, will halve in 2022 compared to previous years.



## 06 RESPONSIBLE ENERGY USER THAT HELPS CREATE A LOWER CARBON FUTURE

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**ArcelorMittal Belgium's steel is one third greener than steel produced elsewhere in the world.**

The CO<sub>2</sub> footprint of our site in Ghent is among the lowest worldwide. This is the result of an integrated production process, a balanced capacity between the various production departments, the efficient use of scrap and, of course, the knowledge and expertise of our employees.

### **BLAST FURNACE & CONVERTER ROUTE**

Within ArcelorMittal Belgium, we produce flat steel products with high added value via a blast furnace route. In our blast furnaces we use iron ore and coal, this respectively in the form of sinter and coke. The coke reduces the sinter to hot metal, which is then converted into liquid steel in the steel shop. During the reduction of sinter, CO and CO<sub>2</sub> are formed.

ArcelorMittal Belgium's CO<sub>2</sub> footprint is among the lowest in the world. This is due to a highly optimised production process and the efficient use of scrap. Every tonne of steel we produce within our site is 20% more environmentally friendly than a tonne of steel produced elsewhere in Europe and 33% more environmentally friendly than steel produced elsewhere in the world.

## **DID YOU KNOW?**

- 20% of our finished products are made of recycled scrap.
- Every year we melt 1,000,000 tons of scrap.
- We continuously carry out new projects. We invest in new technologies to further reduce our CO<sub>2</sub> emissions and work on innovative projects to convert the CO formed during our production process into useful products.

## **THE EUROPEAN EMISSIONS TRADING SCHEME (ETS)**

The European steel sector is subject to the European Emissions Trading System (ETS). This means that an emission right must be submitted for every tonne of CO<sub>2</sub> emitted. The total quantity of allowances is limited to a specified upper limit. A part is granted for free; another part is traded on the market where the price is determined by supply and demand. The free allocation of CO<sub>2</sub> emission allowances is subject to Europe-wide rules and is based on the specific CO<sub>2</sub> emissions of the best performing companies ("benchmark level") and a historical activity level. Rights are granted for free to avoid 'carbon leakage'.

Though we are benchmark in terms of CO<sub>2</sub> efficiency, we have been faced with a shortage of free emission rights since 2015. This is based on the fact that the European benchmark for hot metal production is currently lower than what is technologically achievable. The lacking rights must be purchased, which causes a significant distortion of competition with non-European steel companies and jeopardises the further progress of European steel companies.

The ETS only covers Europe, creating an unlevel playing field between European steel companies and their worldwide competitors. Steel imported into Europe has a much higher carbon footprint for which exporters do not have to emission rights. The tonnes imported into Europe today even have a larger carbon footprint than that of the steel produced at our site in 1990. In the absence of a global CO<sub>2</sub> system, we ask the government to treat steel imported into Europe equally to the European steel production. This by introducing a 'carbon border adjustment' that ensures a fair distribution of the burden and supports the steel companies that are committed to reducing their carbon emissions.

## **BREAKTHROUGH TECHNOLOGIES**

To meet this challenge, we are working with various partners on breakthrough ideas. We strongly believe in the integrated production route and want to take a big step forward in terms of innovation and energy efficiency. In the future we want to recycle a lot of other waste materials besides steel scrap, such as wood, plastic and even our own process gases.

We have almost finished the construction of the Steelanol installation that will convert the CO from the blast furnace gas into bioethanol with the help of bacteria. The feasibility of the process has already been demonstrated through pilot installations. The plant is expected to be commissioned in 2023, generating about 80 million litres of bioethanol per year. This corresponds to the green energy production of 120 wind turbines.

In addition, we have numerous R&D projects and collaborations with other sectors and research institutes that can all lead to industrial processes to further reduce our CO<sub>2</sub> emissions. However, this does not solve the ever-increasing shortages of CO<sub>2</sub> emission rights that we will be faced with in the future.

Developing new technologies takes time, and you first must be able to generate profit to be able to realise the investment plans. This can only be done with a level playing field where locally produced European steel and imported steel are treated on an equal basis.

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## MAJOR MILESTONE IN OUR DECARBONISATION JOURNEY



On September 28, 2021, ArcelorMittal announced that it had signed a letter of intent with the Governments of Belgium and Flanders, supporting a €1.1 billion project to build a 2.5 million-tonne direct reduced iron (DRI) plant at its site in Gent, as well as two new electric furnaces.

A DRI plant uses natural gas, and potentially hydrogen, instead of coal to reduce iron ore, resulting in a large reduction in CO<sub>2</sub> emissions compared with blast furnace ironmaking. The two electric furnaces will melt the DRI and scrap steel, which will then be transformed in the steel shop into steel slabs and then further processed into finished products.

Once the DRI and electric furnaces are built, there will be a transition period during which production will move gradually from blast furnace A, to the DRI and electric furnaces, after which blast furnace A will be closed as it reaches the end of its life. By 2030, this will result in a reduction of around three million tonnes of CO<sub>2</sub> emissions each year.

The support of both the national and the Flanders governments in this project is crucial given the significant cost associated with the transition to carbon-neutral steelmaking.

Approval from the European Commission for the funding support will also be required.

## Smart Carbon and DRI synergies

The DRI plant will operate alongside Gent's blast furnace B, which restarted production in March 2021 following a significant investment of €195 million.



Various decarbonisation initiatives, including the commissioning in 2022 of Gent's Steelanol/Carbalyst and Torero projects will see annual CO<sub>2</sub> emissions reduction of 0.9 million tonnes by 2030.

The combination of the new DRI plant alongside a sustainable, state-of-the-art blast furnace enables the creation of unique synergies in ArcelorMittal Belgium's roadmap to climate-neutral steelmaking.

Combined, the various initiatives will enable ArcelorMittal Belgium to reduce its CO<sub>2</sub> emissions by 3.9 million tonnes per year by 2030 (on a scope 1 and 2 basis, compared with 2018), which is equivalent to the greenhouse gas emissions from 848,172 cars being driven for a year<sup>1</sup>. As a result, ArcelorMittal Belgium will make a significant contribution to ArcelorMittal Europe's ambition to reduce CO<sub>2</sub>e emissions intensity by 35% by 2030 and to become carbon neutral by 2050.

### Roadmap to 2050

The hybrid model approach of Smart Carbon and Innovative DRI steelmaking in Gent fits into ArcelorMittal Belgium's CO<sub>2</sub> roadmap which consists of three axes:

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- Further improvement of material and energy efficiency as well as increased scrap usage
- The implementation of Smart Carbon technologies:
  - o replacing fossil carbon with circular and waste carbon: 'Fresh' raw materials will increasingly be replaced with waste products, in an environmentally and economically feasible way. The Torero project will pre-treat waste wood from container parks to produce bio-coal suitable for the blast furnace process. ArcelorMittal Belgium also has demonstration projects running with plastic waste that could be injected into the blast furnaces in the form of powder or gas.
  - o reforming waste gas into useful chemical compounds: In 2022, ArcelorMittal Belgium will commission a plant (Steelanol) to biologically convert gas from the steelmaking process into bioethanol.
  - o Separating CO<sub>2</sub> for reuse or storage
- Hydrogen: replacing carbon as a reductant, with hydrogen (ultimately green hydrogen, when it is available commercially).

## **ENERGY POLICY AGREEMENT**

ArcelorMittal Belgium is one of the world's best in terms of energy efficiency. We are committed to maintaining this position. We have signed the energy policy agreement (EBO) with the Flemish government. Accession to the EBO entails, among other things, a four-yearly review of the various processes in search of further energy efficiency improvement measures.

Our site has already been reviewed two times and preparations are underway for the third review, each time defining several measures. All measures have been incorporated in an energy plan for phase 1 and phase 2 and will soon also result in an energy plan for phase 3. The implementation of this energy plan is monitored annually by the Verification Bureau Benchmark Flanders.

One of the requirements of the EBO is to implement an energy management system. Because of international demonstrability, we decided to set up an energy management system according to the guidelines of the international standard ISO 50001.

Our departments in Flanders in Ghent, Genk and Geel mapped out their largest energy consumptions and the factors that influence these consumptions. This revealed 'blind spots' in the field of energy consumption. As a result, all departments became more aware of their share in the overall energy story. In addition, we carried out internal comparisons between our various departments to improve the energy efficiency of our processes and installations and converted best practices into standard working methods.

On January 14, 2018, we obtained the ISO 50001 certificate. At the end of November 2019, the ISO 50001 follow-up audit was conducted. The auditors very much praised the effectiveness of our energy management system. They were also particularly impressed by our detailed follow-up systems and the new initiatives that had been taken since the first audit. Our approach of measuring and improving our CO<sub>2</sub> footprint was highly appreciated. The auditors also stressed the importance of the WCM coordinators for the environment and energy pillar (former Departmental Energy Coordinators) in spreading energy awareness throughout the organisation.

## ACCORD DE BRANCHE

At our ArcelorMittal site in Liège, we signed the 'Accord de Branche'. The Liège site consists of various finishing lines located at various geographical locations. By joining the Accord de Branche, we commit ourselves to improving our energy efficiency by 29.2% by 2023 compared to the reference year 2005. The energy efficiency improvement target of 19.2% by 2020 was far exceeded. In the meantime, the 'Accord de Branche' has been extended by 3 years (until 2023) with more severe conditions. The realisation of this commitment is monitored annually by the Walloon government.

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## IMPORTANT REALISATIONS 2020-2021

- Major relining blast furnace B during which the volume was increased. At the same time, the furnace was rebuilt to operate more (energy)-efficiently. The blast furnace was also equipped to use more circular waste streams in the future.
- Relighting of the production halls and external lighting with LED lighting in Kessales (Liège).
- Coking plant: completion of End Flue Repair activities. These investments will lead to major energy savings and reduce coke gas leaks to the ovens.
- Hot rolling mill: replacing the refractory lining of walking beam furnaces 3 & 4 with a new lining composed of the best available materials to reduce energy losses.

## FIRST SUBSIDY FREE WIND-FARM AT ARCELORMITTAL BELGIUM



On June 15, 2021, the Flemish Minister of Justice and Enforcement, Environment, Energy and Tourism Zuhail Demir opened the construction site of the new Storm wind farm on the premises of steel company ArcelorMittal Belgium in the port of Ghent. Three wind turbines with a rotor

diameter of 162 meters, a tip height of up to 230 meters and a capacity of 6 MW per turbine were erected. These are the largest wind turbines in Belgium.

ArcelorMittal Belgium buys all electricity from the wind farm for twenty years at a fixed price. The steel company thus ensures itself of a guaranteed supply of cheap and renewable energy. Storm can therefore realise the wind farm subsidy-free, without having to rely on the system of green certificates.

With this new and first subsidy-free wind farm, ArcelorMittal Belgium is setting another milestone in the field of renewable energy together with Storm. The locally produced green electricity is fully consumed by the internal steel production processes, which reduces the company's CO<sub>2</sub> footprint. The new wind turbines are also a good example of the importance of steel in our daily lives. Without steel, no sustainable energy.



## 07 SUPPLY CHAINS THAT OUR CUSTOMERS TRUST

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In a competitive market, customer focus is key to success. Our ambition is to become our customer's preferred supplier in terms of service and quality. To achieve this, it is important to have uniform and sustainable systems and processes for the launch of orders, planning, follow-up, transport and quality of our finished products.

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### **Customer Service serving the customer in difficult years**

A global change beginning 2020 strongly impacted our customers. The sudden and substantial switch of consumption of steel was leading to a volatile situation in the daily way of working of the customer service team. As a result of stable foundations in our organisation towards customers, we were able to cope with these new circumstances. The direct link with industry and automotive partners was helping to serve them in the best possible proactive way. Regular communications with our clients all over the world were giving us the necessary information to act quickly on sudden changes in demand. We took the advantage of these new circumstances to get to know our IT systems in a broader range and to improve them accordingly.

Two years later, we are still far from an equilibrium. Nevertheless, ArcelorMittal Belgium was able to continue with product innovation and to offer these new products with an optimal service: extension of Magnelis® and Optigal® capacity, development of advanced high-

strength steels for automotive, some first deliveries in advanced organic coating layers and taking special care of the Xcarb® related shipments to support the way to carbon neutrality.

To steer these first deliveries on time and in a proper way is key for the customer service section.

### Cluster logistics runs well



17 - The transportation of finished steel products by rail.

In 2019, the transport & logistics teams of the supply chain department as well as the internal logistics of Ghent joined forces to optimise the supply chain between Ghent and its Finishing satellites (Liège, Genk, Geel). In the past, the pre-material - cold rolled products from Ghent - was transported by train to Liège and then stored at a contractor, who then dispatched the steel by truck according to the demand of the Eurogal hot dip galvanizing line in. It goes without saying that this intermediate stock was neither a cost-efficient nor sustainable solution.

We decided to exclude partly the intermediate stock by introducing direct trains between Ghent and Eurogal. To this end, we developed, among other things, a material identification system. The materials have to be known before they arrive at Eurogal, in order to allow our colleagues to know where they were placed in the carriages and can unload them quickly and efficiently. It was also important to deliver the right steel coils at the right time.

To supply Eurogal completely by rail, we need about 15 trains a week with 12 railcars each. During the past 2 years, we gradually expanded our transport capacity but were limited by the storage capacity at Eurogal before the line. This is solved now and allow us to plan now up to 15 deliveries per week which covers the complete supplies for Eurogal.

The next phase is to increase the crane capacity at Eurogal, by automatizing the hall, which should then allow us to send also (part of the) Ramet pre-material directly from Ghent to Eurogal (instead of the external contractor). This is planned to be finalised by 2023.

## Scale-up (Supply Chain, Quality Chain, European Project)



18 - Logistics of Eurogal.

The Scale-up (Supply Chain, Quality Chain, European Project) project of ArcelorMittal Europe - Flat Products steers the strategic processes in the field of supply chain and quality. Our cluster ArcelorMittal Belgium is pilot for the next major subproject Sultan. Sultan (= **ScaleUp Logistics and Transport Application**) will replace the current Transport Management System 'ISLA' within ArcelorMittal Belgium, and in the meantime serve as template for ArcelorMittal Europe - Flat Products. The core role of Sultan is to plan the transport needs for supply chain transport in cost efficient way, with as little as possible manual intervention by the transport & logistics department. This will be done by use of a powerful bulk plan engine that evaluates the needs with help of the uploaded network, rates, bookings, restrictions and capacities. Next to the key planning role, Sultan will also manage the detailed cost calculation & cost settlement process with large network of logistic suppliers. With Sultan we will get a complete view on the cost for transporting the material, and we will be able to trace this up to the material level.

### **Permanent challenge to guide our products through the production chain on time in full**

We further optimise our scheduling systems to guarantee an optimum flow of our products through our installations. New innovation products, as ultra-high-strength steels, require more complex routings which of course makes it more difficult to schedule the different production steps assuring an as short as possible and reliable lead time for our customers. Products have to be produced in specific campaigns more frequently, as Magnelis® and Optigal®, limiting again the freedom of scheduling our production chain. We continuously aim for the perfect equilibrium between service and production costs when making production planning, assisted by our dedicated IT-tools such as line scheduling, multi-day and campaign planning software. The next big challenge ahead for production planning and scheduling will be the complete new primary production route with the DRI/EAF installation.

## **Towards more 'green' transport modes**

The new All Weather Terminal (AWT), built next to ArcelorMittal Ghent's existing general cargo quay, got fully operational in the fourth quarter of 2020. The AWT enables us to optimise both internal and external logistics, allowing shipment of finished products by inland or seaborne navigation. Since the startup end of 2020 we have seen a steady ramp up of the shipped volumes, up to 40 kT/week, through this new terminal. This new terminal is helping us to realise our ambitions for the modal shift from truck to barge transport.

Public awareness on green transport modes is everywhere. Also, ArcelorMittal Belgium is putting effort on converting truck shipments into barge, vessel or rail shipments. An example of this is our 'Ruhr project', where we realised a modal shift from truck to barge for volumes to the Ruhr area in Germany. This was done by using a hub in Duisburg for handling and final delivery by truck or rail to customer. Another example is our intersite transport in which was mainly done by truck, and now partly done by rail, lowering the number of trucks in the area.



19 - The new All Weather Terminal (AWT).



## 08 ACTIVE AND WELCOME MEMBER OF THE COMMUNITY

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**We want to strengthen the image of our company and anchor ourselves in the region.**

To strengthen the image of our company and to anchor ourselves in the region, we make use of our social media channels and our neighbor magazine '[Staal in je buurt](#)' (Steel in your neighborhood). Our corporate website ([belgium.arcelormittal.com](http://belgium.arcelormittal.com)) and publications such as this corporate responsibility report are also a valuable source of information for our external stakeholders.



20 - Our neighborhood magazine, published once a year.

## **We want to engage in an open dialogue with all stakeholders.**

### **Company visits**

Company visits offer an excellent opportunity to do so. In 2020, we organised 36 company visits between January and mid-March. Most of these were aimed at customers and educational institutions, but specialised environmental visits are also regularly organised. Because of the covid pandemic, company visits were no longer possible after March 2020. In 2021, 34 company visits took place. In addition, and due to corona measures, several digital visits were organised.



21 - Visit to Sidgal.

### **Sustainability events**

In 2020 and early 2021 - despite the pandemic - several events on sustainability took place within our cluster. They demonstrated that steel is the cornerstone of a circular economy:

#### ***Sustainability Tour***

On March 5, 2020, the Network for Flemish Entrepreneurs organised a Sustainability Tour through Flanders. Jan Jambon (Minister-President of the Flemish Government) kicked off the campaign at our ArcelorMittal site in Ghent where he made a site visit to our bioethanol plant. "By bringing young people, companies and politicians into contact with each other, we hope they will better understand, inspire and learn from each other in order to find solutions together for the big challenges we face today. Hopefully it can also convince young people themselves to choose fields of study with which they can contribute to helping companies to become even more sustainable businesses or find solutions for the future," echoed the Flemish Entrepreneurs.



*22 - The new face of blast furnace B.*

#### ***Inauguration of renewed blast furnace B***

On March 3, 2021, the renewed blast furnace B in Ghent was officially inaugurated during a digital event. The inauguration ceremony started with a number of speeches, by Jan Jambon (Minister-President of the Flemish Government), Manfred Van Vlierberghe (CEO ArcelorMittal Belgium), Jeroen Van Lishout (COO Primary ArcelorMittal Belgium) and Frederik Engels (head of the blast furnace and sinter plant department). The speeches were interspersed with various video testimonials by employees involved in the refectation. The digital event concluded with the symbolic lighting of the new blast furnace.

The refectation will make blast furnace B one of the most modern and efficient blast furnaces in the world, both in terms of productivity and lower CO<sub>2</sub> emissions. The new blast furnace, which was given an optimal shape, is also equipped with state-of-the-art automation systems. This investment will put steel production even more at the centre of the circular economy. It will help ArcelorMittal Belgium further reduce CO<sub>2</sub> emissions and achieve its stated climate goals, through more efficient fuel consumption, recycling of wood waste and injection of waste gases and end-of-life plastics.

### ***22,457 weapons melted down into finished steel products.***

At a press conference at the Provinciehuis in Ghent on April 28, 2021, Governor of East Flanders Carina Van Cauter explained the destruction of a large quantity of voluntarily collected firearms from private individuals.

As many as 22,457 firearms, accounting for 60 tons, were collected nationwide and finally destroyed by meltdown in our steel plant in April 2021. The weapons were converted at 1,700 degrees Celsius into liquid steel, which was then made into steel sheets suitable for the automotive and construction industries, among others. This action fits perfectly within the framework of our company's sustainability campaign.

Half of the weapons were collected by local police forces from around the country. They are mostly weapons that were voluntarily donated by individuals for various reasons, such as someone inheriting a weapon and not wanting to keep it. The other half are former service weapons of the police, which have since been replaced.

Alexander De Baets, commissioner and press officer federal police CSD East Flanders, testified about this meticulously planned action: "Such a collection and transport are never without risk, but once again the operation went off without incident. During the three-day operation, twenty police officers carried out seven transports that were secured from the starting point to the ArcelorMittal furnaces. Cooperation between the various partners was once again flawless."

The destruction of weapons is not only done in the context of a past amnesty. About twice a year we melt down some 10,000 confiscated weapons from all over Belgium. These include revolvers or hunting weapons, but also automatic assault rifles or samurai swords confiscated by the police in the context of criminal investigations.

Manfred Van Vlierberghe, CEO of ArcelorMittal Belgium: "Steel is a unique base material in that it is 100 percent fully and infinitely recyclable, with no loss of quality. The ecological footprint per ton of material produced is smaller than for alternative base materials. About 20 percent of our finished product is recycled scrap. Every year, we melt down more than 1 million tons of steel scrap. Every ton of steel produced today sooner or later returns to our steel mill in the form of scrap. And in the future, we also want to recirculate and revalorise many other waste streams in our process, just think of waste wood or plastics. It nicely illustrates how steel is the cornerstone of a circular economy."



23 - 22,457 weapons melted down into finished steel products.

### ***Belgium's first subsidy-free wind farm on ArcelorMittal Belgium land in Ghent***

Flemish Minister of Justice and Enforcement, Environment, Energy and Tourism Zuhair Demir opened the site of the new Storm wind farm on our premises in Ghent on June 15, 2021. Three additional wind turbines with a rotor diameter of 162m, a tip height of up to 230m and a capacity of 6 MW per turbine were built in 2021. These are the largest wind turbines in Belgium.

ArcelorMittal Belgium will purchase all electricity from the wind farm at a fixed price for twenty years. This ensures a guaranteed supply of low-priced and renewable energy. By consequence, Storm can realise the wind farm subsidy-free, without having to resort to the system of green certificates.



24 - Carbon2Value pilot plant.



25 - Carbon2Value pilot plant.

### ***Closing event Carbon2Value***

Since 2019, ArcelorMittal Belgium has been working with Dow (Terneuzen) and several other partners on innovative technology to valorise CO and CO<sub>2</sub> from the process gases of the steel industry via a chemical route with amines. This project is called 'Carbon2Value'.

The online closing event of Carbon2Value (C2V) took place on June 22, 2021. This symposium concluded the 5-year C2V project and discussed the results of pilot studies conducted by ArcelorMittal, Dow and LanzaTech. The main conclusion: the program to convert the carbon waste stream from the steel industry into building blocks for the chemical

industry is indeed delivering value. The connection between the steel industry and chemistry is going to reduce greenhouse gas emissions significantly.

Manfred Van Vlierberghe, CEO of ArcelorMittal Belgium: "Our Carbon2Value project is a great example of cross-border industrial symbiosis between the steel industry and the chemical industry to reduce CO<sub>2</sub> emissions. Turning waste streams into raw materials represents a unique opportunity to demonstrate our leadership in sustainability and give concrete form to our ambition of climate neutrality by 2050."

### ***Open Company Day***

Because of the corona pandemic, in 2020 there was no physical but only an online edition of Open Company Day with a virtual 360° visit to some production lines. The edition of 2021 was also canceled.

### **Two pioneering new installations to further reduce carbon emissions**

In 2020 and 2021 the construction of two new pioneering facilities to further reduce our carbon emissions continued.

### ***Steelanol: blast furnace gas becomes sustainable ethanol***

The Steelanol plant enables us to convert the carbon monoxide (CO) from our blast furnace gas into bioethanol, to then be used as fuel for transportation or for the production of plastics, cleaning detergents etc...

Our Steelanol plant will be the first industrial plant of its kind in Europe, good for an annual production of 80 million liters of ethanol.



26 - Steelanol under development.



27 - Steelanol under development.



28 - Steelanol under development.



29 - Steelanol under development.

This technology, under license from US-based LanzaTech with which we have partnered, uses microbes that feed on carbon monoxide to produce bioethanol.

On April 16, 2021, ArcelorMittal Belgium reached a major milestone in the construction of this pioneering Steelanol project, with the arrival and hoisting of four giant bioreactors at the Ghent steel company. The bioreactors, which will convert industrial gases released during the steelmaking process into sustainable ethanol, are the central element of the plant, making their arrival and hoisting the last major component of the Steelanol construction phase and the beginning of the next phase to install piping and connect the facilities. The Steelanol plant will be officially inaugurated in December 2022.

#### ***Torero: Processing wood waste into biocarbon***

The Torero plant will process wood waste into biocarbon suitable for the blast furnace process. This will allow us to reduce the injection of fossil pulverised coal into our blast furnaces, thereby reducing CO<sub>2</sub> emissions. This also provides an alternative to the current burning of this particularly difficult wood waste stream.

In its initial phase, the Torero plant will convert 120,000 tons of waste wood into about 50,000 tons of biocoal annually. The technology of the torrefaction process was developed by the company Torr-Coal, the waste wood will be supplied by Renewi.

### **ArcelorMittal unveils one of the largest sunroofs in Belgium**

Since 2019, the installation of more than 27,000 solar panels on the roofs of ArcelorMittal in Ghent was completed, using no less than 157.2 tons of steel. The solar panels produce 10,000 MWh per year, equivalent to the energy consumption of 2,900 households. The renewable energy generated is used internally to feed our production lines.

In 2021, over 10,000 solar panels have been installed on the roofs of Eurogal, Ramet and Kessales in Liège. This amounts to about 4,000 MWh of green electricity per year. The renewable energy generated is used entirely internally and will reduce our carbon footprint by 1,400 tons of CO<sub>2</sub> per year.

Manfred Van Vlierberghe, CEO of ArcelorMittal Belgium: "The green energy produced by these solar panels will assist us in achieving our ambition to be climate-neutral by 2050. We are fully committed to this and are delighted to have installed the largest solar roof in Belgium. The panels are also a good example of the importance of steel in our daily lives. All panels rest on a support structure made of Magnelis® steel. Magnelis®, produced at our Liège site among others, is an illustration of sustainability. It guarantees the long-term viability of any solar farm, regardless of the environment in which it is located".

### **Responsible Steel™**



30 - The award of the Responsible Steel certificate to ArcelorMittal Belgium.

In July 2021, several ArcelorMittal sites, including ArcelorMittal Belgium, obtained the ResponsibleSteel™ certification. ArcelorMittal Belgium's steel production sites (Ghent, Liège, Geel and Genk), Luxembourg (Belval, Differdange and Rodange) and Germany (Bremen and Eisenhüttenstadt) are the first steel companies worldwide to be independently audited and meet the standards for ResponsibleSteel™, the first global multi-stakeholder standards and

certification initiative for the entire steel value chain, from mining through production to sales and distribution.

The ResponsibleSteel™ audit process enables each site to demonstrate that its production processes meet rigorously defined standards for a wide range of social, environmental and governance criteria. The standard is based on 12 principles with a variety of criteria and underlying requirements.

1. Corporate Leadership
2. Management Systems
3. Occupational Health and Safety
4. Labor Law
5. Human Rights
6. Engagement and communication to stakeholders
7. Local Communities
8. Climate change and greenhouse gas emissions.
9. Noise, Emissions, Effluents and Waste.
10. Water management
11. Biodiversity
12. Decommissioning and closure of facilities

To receive ResponsibleSteel™ certification, each site must undergo a detailed third-party audit, with an independent Certification Committee making the final decision on certification. ArcelorMittal worked with international auditor AFNOR and its German subsidiary GUTcert, specialised companies in certification and assessment services. The first audit took place in February 2020.

Geert Van Poelvoorde, CEO, ArcelorMittal Europe says: "Responsible production techniques and high ethical and business standards are becoming increasingly important for our customers and end users. The ResponsibleSteel™ certification reassures our customers that we meet expectations for setting carbon reduction targets and environmental and social standards at every stage of production. Many teams in ArcelorMittal are involved in the certification process and I would like to congratulate them on their hard work to be among the first sites to receive ResponsibleSteel™ certification - this is quite an achievement!"

*Residents who have environmental complaints can contact us directly or call the green number of the port area in Ghent (0800/92.999) or in Liège (0479/79.35.64). All complaints about nuisance we receive will be investigated individually. On the basis of the information provided, we check whether the nuisance is the result of malfunctions in our processes. If this is the case, we will do our utmost to limit the nuisance to a minimum. Even if the cause of the environmental nuisance turns out not to originate from our site, we give an appropriate answer to whoever reported it.*



## 09 PIPELINE OF TALENTED SCIENTISTS AND ENGINEERS FOR TOMORROW

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Innovation runs in our DNA. It is a prerequisite for continued growth. We are committed to 'Industry 4.0', the so-called fourth industrial revolution, in which we continue to push the boundaries of steel making. Industry 4.0 will fundamentally change the way we work in the coming years. We have all assets required to be at the forefront of innovation: highly qualified employees, high-tech installations and highly automated processes. In addition, we are working with various research centres within the ArcelorMittal group and the educational world to develop new steel grades and new types of coatings.

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## Industry 4.0 as our mindset for becoming the 'steel plant of the future'

### 3D printing as a strong example of Industry 4.0



31 - 3D printing installation in Ghent.

Since a few years, a fully automated welding installation is to be found on our site. The welding installation gives new life to worn or repairable parts by means of advanced automation of welding technology.

We also dispose of a 3D printer with which we can print metal, stainless steel & high-strength steel. The installation is operated by 'TheSteelPrinters'. The company, a joint venture with ArcelorMittal, was set up at the end of 2018 and, since its launch, has expanded considerably with a larger team and several printers. 3D printers were also installed at ArcelorMittal Avilés (Spain) and Dunkirk (France).

During the corona crisis of 2020, the expertise of our Ghent colleagues was called upon to 3D print holders for face shields. Colleagues in Spain were also called in, printing facial screens for healthcare professionals as well as respirators to treat patients with acute respiratory problems.

Lakshmi Mittal, Executive Chairman ArcelorMittal: *"Enabling rapid delivery of respirators and face shields is critical to help defeat this virus and I am very proud that our company and our people are able to use their skills and expertise to help make this happen."*



32 - Lakshmi Mittal, Executive Chairman ArcelorMittal

## **Collaboration with the educational world**

At ArcelorMittal Belgium, over 500 engineers are at work in production, maintenance, IT, automation, engineering or research and development, whether or not in an international environment. They develop mathematical models to improve business processes, industrialise new products, improve the metallurgical quality of steel products, refine the production process and coordinate maintenance and automation projects among many other things.

In the fall of 2016, we signed a framework contract with Ghent University for a long-term collaboration. With the framework contract we commit ourselves to financially support a number of research projects from different research departments every year. The research themes are situated in the domain of energy and CO<sub>2</sub> efficiency, material efficiency, productivity increase and automation.

## **Master's thesis awards for engineering & industrial sciences students**

In 2020 and 2021, we awarded master's thesis awards to (bio-)engineering, economical and industrial sciences students. In several fields of study, we awarded up to three prizes, each for an amount of €1,500. All master's theses with an engineering subject submitted to Ghent University and the Catholic University of Leuven were considered eligible, but especially those master's theses that made an excellent contribution to innovating or improving one or more of the following topics:

- automation of processes,
- efficient use of energy,
- technological and economic use of material.

## Sustainability tour across our site

On March 5, 2020, the Network for Flemish Entrepreneurs organised a Sustainability Tour through Flanders. Flemish Minister-President Jan Jambon kicked off the campaign at the ArcelorMittal site in Ghent by paying a site visit to our bioethanol plant.

*"By bringing young people, companies and politicians into contact with each other, we hope that they will understand each other better, inspire each other and learn from each other to find solutions to the major challenges we are facing today. Hopefully it can also convince young people to choose their own fields of study with which they, in turn, can later help companies to operate even more sustainably or find solutions for the future",* the Flemish Entrepreneurs stated.

## Collaboration with research & development

### OCAS

Our ArcelorMittal site in Ghent has maintained a close collaboration with the OCAS research centre for many years. OCAS is a market-oriented research centre that offers metal-based solutions and result-oriented services to metal producing and processing companies worldwide.

OCAS anticipates its customer's needs by developing alloys and coatings, by producing and testing samples and co-develop steel applications. OCAS is equipped with state-of-the-art R&D tools and facilities in its laboratories in Zelzate and Zwijnaarde (Belgium). The research centre valorises know-how by product and solution development and has a highly qualified team of over 150 researchers and engineers with an international orientation.

In 2021 OCAS and ArcelorMittal Belgium initiated an intensified collaboration regarding employer branding, proactive workforce planning and employee potential sharing. The HR and communication departments of both Ocas and ArcelorMittal Belgium defined together an action plan to meet these goals.



33 - OCAS building in Ghent.

## Greengineers hiring campaign

In June 2021 it was decided to attract at least 20 extra engineers for the deployment of our decarbonisation projects. The labor market was already very tight, especially for technical profiles. We launched a campaign with focus on the high-tech decarbonisation projects and ArcelorMittal Belgium's efforts to make steel production more sustainable.

After brainstorming we combined the words green and engineer, into the tagline 'greengineer the future of steel'. The brand was new in the market and seemed very attracting for the target audience we wanted to recruit.

Several job days were organised, during which candidates went for a guided tour at Steelanol, informal meet and greets with future colleagues and short interviews with HR and the project leaders.

Thanks to the smooth collaboration and creativity of the ArcelorMittal Belgium teams we managed to hire 30 'greengineers' with different backgrounds (international profiles, women, various degrees...) in 8 months. Moreover, this seemed to be the perfect employer branding campaign for the hiring of higher qualified profiles in general.





## 10. OUR CONTRIBUTION TO SOCIETY MEASURED, SHARED AND VALUED

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### WE WANT TO ACTIVELY CONTRIBUTE TO A SOCIETY WITH GREATER WELL-BEING

ArcelorMittal Belgium's average sponsorship budget between 2017 to 2019 amounted to €120,000. Due to the corona crisis and the accompanying economic crisis, sponsorships fell back to 0 in 2020. In the first half of 2021, the corona crisis was still making itself felt, but as from the second semester, there was again room for financial support for a few projects. These represented sponsorship expenditure of €50,000.

- In July 2021, **floods** took place in Wallonia (Liège region). To show (financial) solidarity and sympathy to compatriots affected by the severe floods as well as to the colleagues and their families in the flooded areas in the Liège region, ArcelorMittal Belgium donated in favor of **the Red Cross**, which coordinated emergency aid at the request of the government.
- In December 2021, ArcelorMittal Belgium participated to the **'Warmest Week'** initiative ('Warmste Week' or 'Viva for Life'). The whole week is dedicated to raising as much money as possible for charity. As teambuilding activities in large groups were temporarily no longer possible (due to corona), we found another way to keep meeting each other. We encouraged our employees to go COVID-proof on a walk with one or a few of their colleagues, take a photo and upload it as a tile on the homepage of our intranet. Per entry on the intranet, ArcelorMittal Belgium donated an

amount to the Warmest Week. The department that registered the most entries (Industrial IT, Automation and Models) was rewarded with a Golden Walking Shoe.

## **IN ADDITION TO PROJECTS COMBATING POVERTY, WE ALSO SUPPORT CULTURAL INITIATIVES**

- ArcelorMittal Belgium is an active member of '**La Maison de la Métallurgie**'. Since its creation in 1990, ArcelorMittal Belgium also participates in updating its educational program. After all, the steel industry is undergoing permanent major changes that have characterised recent history.

ArcelorMittal Belgium was asked by the 'Maison de la Métallurgie' to preserve one of the torpedo cars from the former Chertal site and decided to donate one. Thanks to this donation, which is of great symbolic value, a figurehead of Liège's industry will be preserved. This donation came at a time when ArcelorMittal Belgium had started the dismantling of the Chertal site and of blast furnace B after obtaining the environmental permits in August 2021.

## **WE ARE ALSO PUBLICLY RECOGNISED FOR OUR ACHIEVEMENTS IN THE FIELD OF SUSTAINABLE BUSINESS**

- **Voka Charter for Sustainable Business 2020**

Having achieved the Voka Environmental Charter since 2003, sixteen years in a row, we decided to switch to the Voka Charter for Sustainable Business (VCDO) as from 2019.

By participating in this VCDO, we are working towards a business that is profitable for our company as well as for people and the environment. In doing so, we are also building our company's international reputation and helping to achieve the United Nations' 17 Sustainable Development Goals (SDGs), divided into the 5 pillars of sustainable development (People, Planet, Prosperity, Partnership & Peace). These SDGs have been signed by as many as 194 countries worldwide.

On June 25, 2020, we were handed over the VCDO 2020 charter at a COVID-proof online event. We achieved this based on the achievements of our 2019 action plan, which was still mainly focused on the 'Planet' pillar. In our VCDO 2021 action plan, we expanded the scope, and it now includes actions for each of the 5 pillars of sustainable development. On June 16, 2022, ArcelorMittal Belgium, together with other companies, was being honored with the VCDO 2021 charter, in the botanical garden of Ghent University.

- **Most commendable resident of East-Flanders**

At the beginning of 2020, we were granted the title 'most commendable resident of East-Flanders'. Our sustainable economy efforts and the many investments to

contribute to climate goals, such as the solar panel park as well as our Torero and Steelanol plant were highlighted.

- **ResponsibleSteel™ Certificate**

On July 21, 2021, ArcelorMittal Belgium achieved ResponsibleSteel™ certification. ResponsibleSteel™ is the first global standards and certification initiative for the entire steel sector, from mining through steel production to sales and distribution.

To obtain this important certificate, a detailed audit was carried out by an independent auditor to demonstrate that our production processes meet strictly defined standards for a wide range of different criteria. The certificate guarantees our customers that we meet the requirements for setting targets around carbon reduction and expectations for environmental and social standards at every stage of our production process.

Obtaining the ResponsibleSteel™ certificate is a first for ArcelorMittal Belgium. Not only within the ArcelorMittal group, but even worldwide, we are among the first steelmakers to obtain this certificate. We are therefore particularly proud of this recognition.