FOR A BRIGHTER FUTURE

lichtgitter

Sustainability Magazine 2025

SUSTAINABILITY AT LICHTGITTER

Board of Management from left to right.: Ass. jur. Hermann Stengel (COO Lichtgitter Group), Dr Holger Artelt (CEO Lichtgitter Group), Heiko Abendroth (CFO Lichtgitter Group)

Sustainability – just old wine in a new bottle? Is sustainability a buzzword that every company is nailing to their mast just to look good? We have to admit, that was the impression we had at Lichtgitter when we started getting to grips with sustainability some years ago.

But a lot has happened since then – around the world, closer to home and of course at Lichtgitter too. **There's no avoiding sustainability today, not even for companies. And we think that's a good thing, even if it does mean we're constantly facing new obstacles.**

Every day, we see just how important it is to act sustainably. The cost of energy is climbing dramatically, there's a severe shortage of skilled workers, and the consequences of climate change are taking on extreme proportions. We have no intention of burying our heads in the sand at Lichtgitter. Just the opposite in fact. **We're not separate from the society we operate in and we want to actively do what we can to make the future brighter.** Our interest is not entirely selfless of course. To enjoy economic success we must position ourselves as an attractive employer, handle resources responsibly, treat employees with respect and devise innovative energy concepts. This is not simply borne out by numerous studies; we get this feedback regularly from our business partners, our employees and our network of suppliers.

Luckily, conducting business sustainably is nothing new at Lichtgitter. As a family-owned company with an international focus, values such as loyalty, security, solidarity and diversity have always been important to us. We have always looked after the people who work for us and the environment. Durability and reliability are characteristics promised with each of our products. **In light of all this, our sustainability strategy is continuing and strengthening what we have always done.**

In this magazine, we'd like to invite you to come along with us and take a look at the both the challenges and opportunities that we associate with sustainability.

We hope you find it a stimulating and informative read.

Dr Holger Artelt
CEO

Heiko Abendroth
CFO

Hermann Stengel
COO

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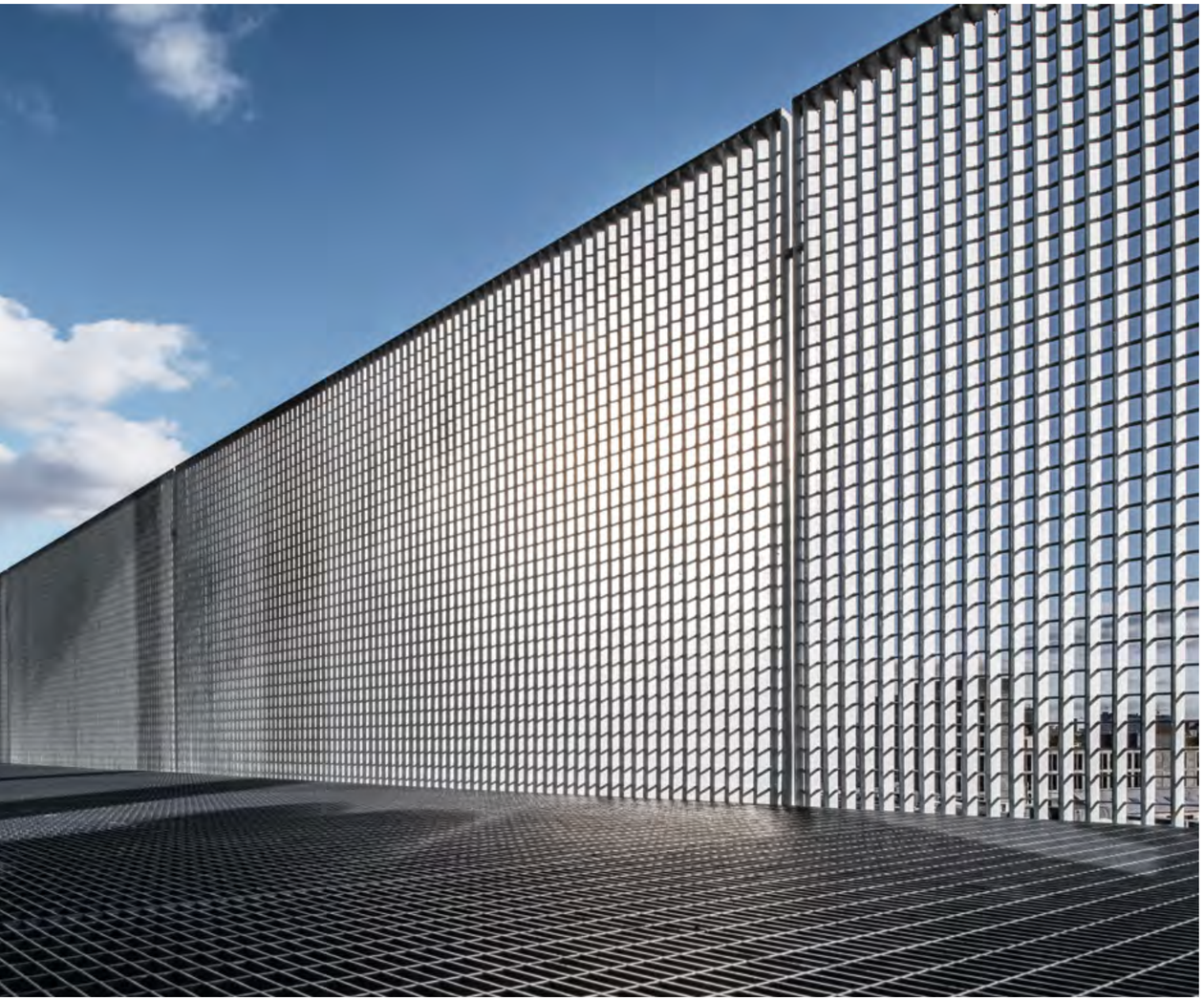


WE ARE LICHTGITTER

WE WERE THE FIRST COMPANY IN GERMANY TO MASS PRODUCE GRATINGS, STARTING IN 1929. OUR EXPERTISE IS BASED ON MORE THAN 90 YEARS OF EXPERIENCE IN MANUFACTURING METAL GRATINGS AND THIS HAS MADE US ONE OF THE WORLD'S LEADING SUPPLIERS OF A FULL RANGE OF INDUSTRIAL FLOOR COVERINGS.

ABOUT LICHTGITTER

1929
the year the company was founded

16.4
years,
average time with the company

10
national subsidiaries

>€350 m
Group revenue p.a. (2023)

21
international subsidiaries

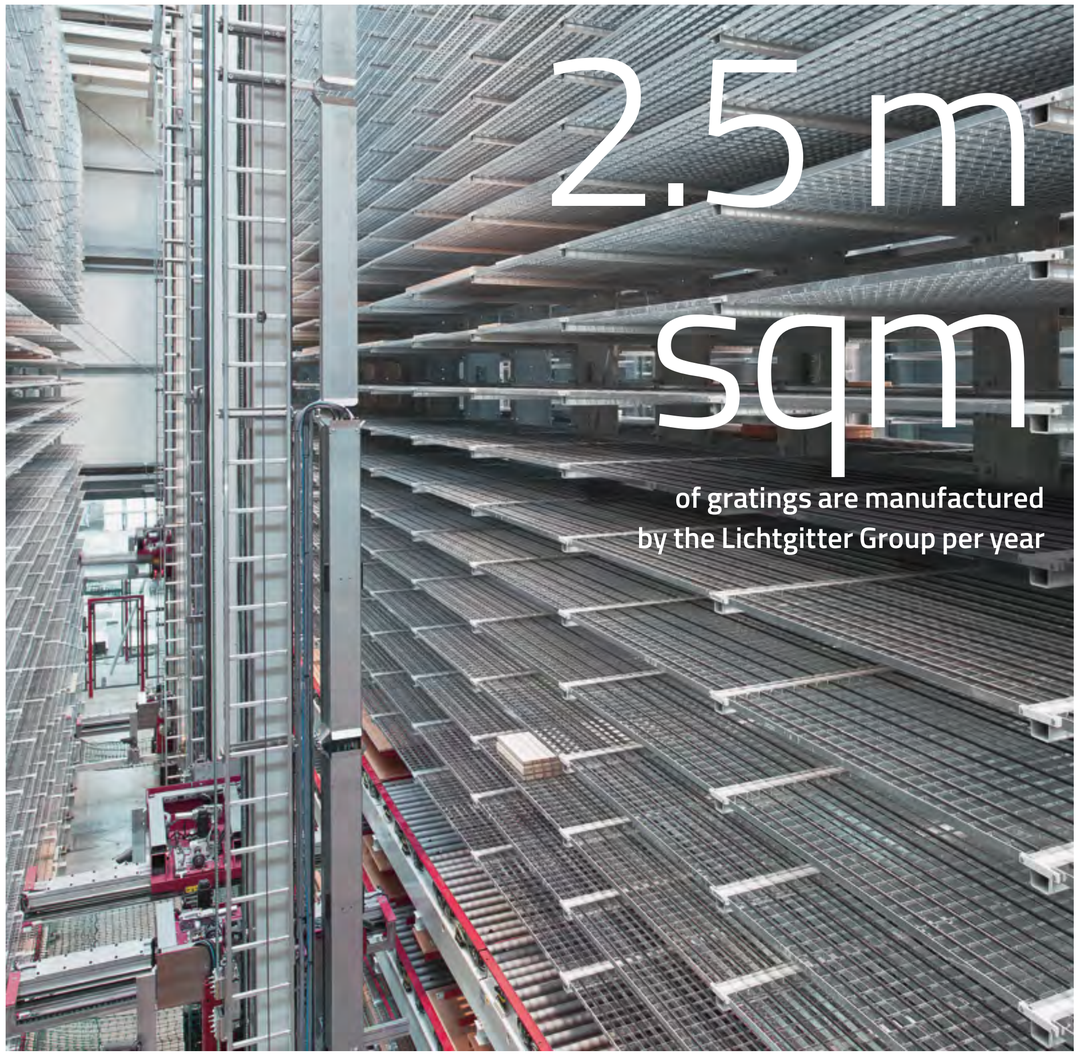
19
countries

1,600
Lichtgitter Group employees in total
of which

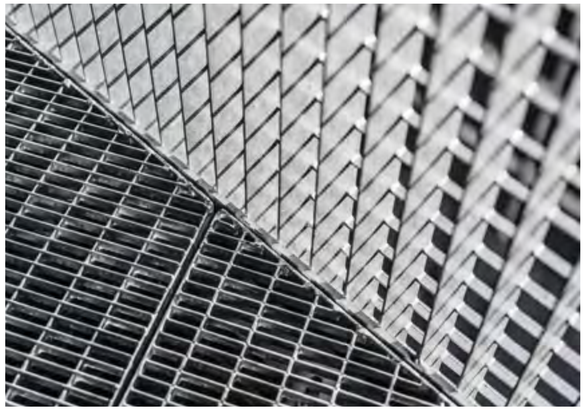
>1,000
are in Germany

Many sectors benefit from Lichtgitter solutions.
These include:

- Automotive
- Architecture
- Logistics
- Data centres
- Energy and offshore industries

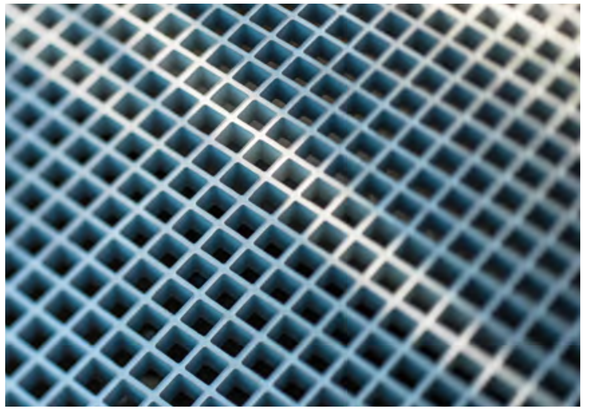


OUR BUSINESS FIELDS



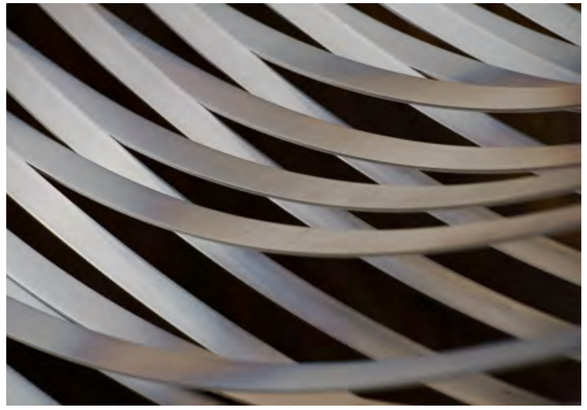
Gratings

Perforated metal planks



Products made from glass fibre reinforced plastic

Stairs



Steel services

Hot-dip galvanisation

Powder coating

Wire mesh

"THE CULTURE HAS TO FIT."

THE LICHTGITTER GROUP HAS CREATED THE FOUNDATION FOR SUCCESSFULLY ADVANCING SUSTAINABILITY IN THE COMPANY WITH A COMPREHENSIVE TRANSFORMATION PROCESS – AN INTERVIEW.

Dr Artelt, Mr Stengel, Mr Abendroth, Lichtgitter launched a far-reaching transformation process in 2020 – what were your goals?

DR HOLGER ARTELT: Lichtgitter is a family-owned company and we're very proud of this fact. However, we now have 1,600 employees and revenue of €350 million. That takes some amount of organisation. As part of the transformation, we optimised our processes and made structures clearer. What we firmly held on to were the values that have always been important at Lichtgitter – empathy and a culture of appreciation.

What role does sustainability play?

HERMANN STENGEL: Sustainability means conducting business today in such a way that sufficient resources remain for the future. Sustainable processes must ensure a long-term development that is environmentally friendly, socially responsible and economically viable.

HEIKO ABENDROTH: Sustainability has become more important in our company. We're proactive about sustainability, we measure our sustainability performance and we report on this. This includes taking a look at our processes and continually improving them.

DR HOLGER ARTELT: And processes can only be changed with the right culture. Changing the culture was therefore a prerequisite for advancing sustainability.

What are the focal points?

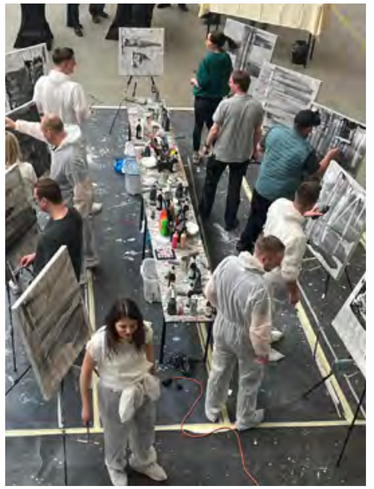
HERMANN STENGEL: We take into account environmental and social aspects as well as corporate governance. The Lichtgitter Group operates the most cutting-edge galvanising plants in the world with the lowest emissions. We focus in particular on occupational health and safety and are working on innovative resource-saving solutions.

DR HOLGER ARTELT: Despite that, we remain a medium-sized enterprise. To achieve long-term changes, for example in lowering carbon emissions, we're very dependent on external factors. Good cooperation with our partners in the steel industry and customers' willingness to join us on this path are vital.

"Without the right cultural foundation, sustainability can't fulfil its potential."

DR HOLGER ARTELT

CEO Lichtgitter Group



Art workshop at Lichtgitter GFK

^ Dodgeball Beachcup, Stadtlohn - Lichtgitter Giants

‹ Lichtgitter USA visits the Stadtlohn plant

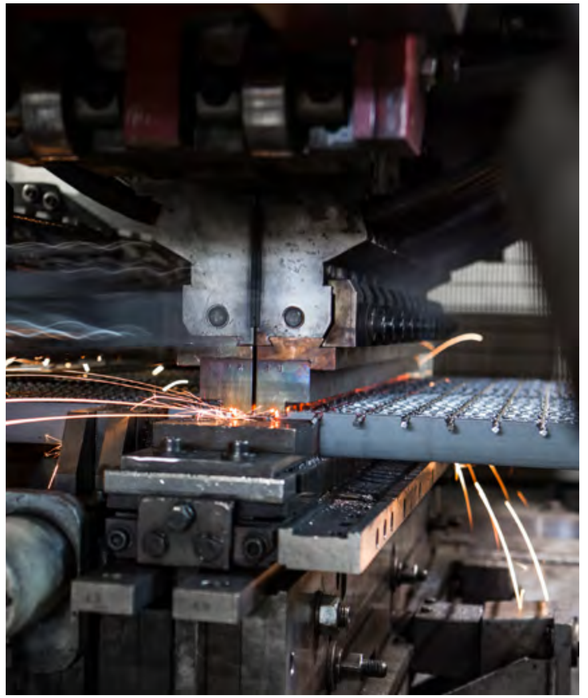
BECOMING MORE SUSTAINABLE TOGETHER

Sustainability has become a strategic future topic for the Lichtgitter Group – including the associated risks and opportunities.

As part of the programme of transformation that the company has carried out over the last four years, we also took into consideration the increased importance of sustainability. A principle that we took for granted in the past has now been given structure, acknowledging its strategic importance. In a double materiality analysis, we analysed sustainability topics and their impacts as well as the risks and opportunities for Lichtgitter. With the newly established position of Sustainability Manager within the Quality Management department, we aim to ensure that the topic is implemented and advanced throughout the company in an efficient and structured manner and that this is communicated clearly both internally and externally.

THE CHALLENGE OF LOWERING CARBON EMISSIONS

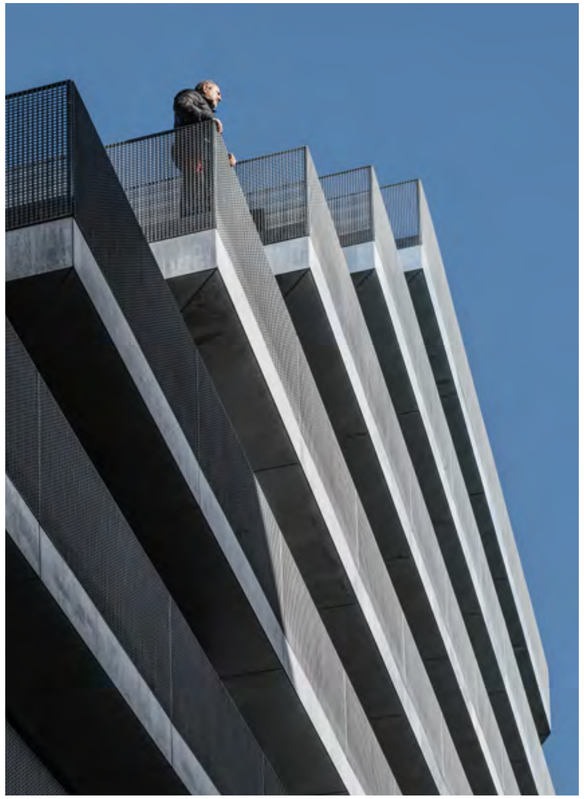
In addition to big opportunities, for example in terms of our attractiveness as an employer, Lichtgitter also faces challenges associated with becoming more sustainable. It's important to us that the topic is not merely reduced down to climate protection. Social sustainability such as occupational safety, safeguarding our employees' health and diversity among the workforce are central aspects of sustainability at Lichtgitter. At the same time, lowering carbon emissions poses an extremely challenging task for us. That’s because only around ten per cent of the carbon emissions recorded in our carbon footprint are actually caused by us in the company.



“Sustainability has long been a part of our corporate philosophy, just like occupational safety and quality. We’ve been working sustainably for a long time. We just called it by another name.”

HERMANN STENGEL

COO Lichtgitter Group



"With Ambition 2025, we have laid the cultural foundation that we will use to change processes and implement projects."

HEIKO ABENDROTH

CFO Lichtgitter Group

These are the only emissions that we have direct control over and can influence through thermal renovation or the use of green electricity for example. The majority of the emissions in our footprint are caused through the materials we buy, as is the case for all companies that process metals.

In order to lower these emissions and become emission-free by 2045 we have to work on solutions together with the steel industry. The use of green or low-carbon steel is a very promising option that we are currently looking into together with our partners.

SOLUTIONS FOR THE FUTURE

MATERIAL TOPICS AT THE LICHTGITTER GROUP

Lowering energy consumption
Cutting-edge equipment in our galvanisation plants and renovated production plants guarantee that our manufacturing processes only consume as much energy as is absolutely necessary.

Lower greenhouse gas emissions
We're actively following developments in low-carbon recycled steel and green steel and are ready to use these materials in our production.

Use of renewable energy
In recent years, photovoltaic equipment with a total output of around 2,939 kWp has been installed on Lichtgitter Group buildings.

Lowering the emission of hazardous materials
We keep emissions of hazardous materials at our plants as low as possible with high-performance extraction technology, filter equipment and by fully enclosing the galvanisation processes.

Attractive and future-oriented working conditions
We continually invest in a good working environment for our employees. In addition to education and training, we also invest in occupational safety and health management.

Compliance and good corporate governance
Our Code of Conduct and other guidelines focussing on compliant conduct outline clear principles for our interactions with internal and external groups of stakeholders.

HOT-DIP GALVANI-SATION

IN COMPARISON WITH OTHER CORROSION PROTECTION METHODS, SUCH AS COATINGS AND PAINTS, PRODUCTS THAT ARE HOT-DIP GALVANISED ARE ESPECIALLY DURABLE. NOT ONLY DOES THE ZINC COATING RELIABLY PROTECT THE STEEL FOR DECADES BUT HOT-DIP GALVANISED STEEL CAN ALSO BE USED AGAIN WITHOUT ANY PROBLEMS AND IS THEREFORE IDEAL FOR ESTABLISHING CIRCULAR ECONOMIES.

SUSTAINABILITY THROUGH RELIABILITY

Pretreatment pool at the Heek galvanisation plant

90 per cent of our products are hot-dip galvanised. During hot-dip galvanisation, or batch galvanisation, finished steel products are dipped in a liquid zinc alloy that is heated to 450 degrees Celsius. The mutual diffusion of zinc and iron creates a zinc coating that protects the components against corrosion.

In comparison with other corrosion protection methods, such as coatings and paints, products that are hot-dip galvanised are especially durable. The zinc coating protects the steel for up to one hundred years and requires no maintenance or repair.

THE CIRCULAR ECONOMY: REUSE, REMAKE, RECYCLE

Hot-dip galvanised steel constructions are also ideally protected against mechanical stressors – even with regular assembly and disassembly, hot-dip galvanised components, such as gratings, can be used for decades. Should components have defective or failed corrosion protection, hot-dip galvanised steel components can be regalvanised without losing any quality and then reused. At the end of its useful life, hot-dip galvanised steel can be recycled endlessly. It is simply melted down and new steel products are poured. The rate of recycling for hot-dip galvanised steel throughout the sector is currently 88 per cent, the rate of reuse is 11 per cent. During the recycling process, zinc evaporation is also collected and reused.

These characteristics make hot-dip galvanised steel an important component of the circular economy, as a circular tool and construction material.

HOT-DIP GALVANISED STEEL HELPS TO SAVE RESOURCES:

Corrosion proof, shock and abrasion resistant
› Long life cycle (>50 years on average)

No need for maintenance or repair
› No regular maintenance necessary (such as painting)

Can be repaired
› Regalvanisation extends life cycle

Fit for circular economies
› Hot-dip galvanised steel can be recycled endlessly

FOCUSSING ON ENVIRONMENTAL PROTECTIONN AND OCCUPATIONAL SAFETY

Galvanisation is certainly an energy-intensive process that emits hazardous materials and requires environmentally sensitive materials. Our zinc pools must be kept at 450 degrees Celsius 365 days a year, for example. Chemicals such as hydrochloric acid are used to prepare steel for galvanisation. Keeping the environmental impact of our operations as low as possible while safeguarding the highest standard of occupational safety for our employees has always been one of our top priorities.

EUROPE'S MOST CUTTING-EDGE GALVANISING PLANTS

With our four plants in in Heek, Stadtlohn, Sulz (Germany) and Glos (France), we operate Europe's most cutting-edge galvanising plants. State-of-the-art technology, computer-aided processes and, last but not least, our experienced and highly skilled employees ensure that we set the standards in the sector when it comes to quality, service and sustainability.

THE FOLLOWING STANDARDS, INCLUDING QUALITY STANDARDS, APPLY IN ALL FOUR PLANTS:

- Galvanisation in accordance with EN ISO 1461 "Hot dip galvanized coatings on fabricated iron and steel articles" and DASt 022 "Hot dip galvanized coatings on load-bearing steel constructions"
- Certified to EN 1090 standard "Monitoring of in-plant production controls for hot dip galvanisation in accordance with EN 1090"
- Quality management system in accordance with EN ISO 9001:2015
- Energy management system in accordance with EN ISO 50001:2018
- The Lichtgitter Group galvanisation plants are members of the galvanisation industry association.

LICHTGITTER GROUP'S FOUR GALVANISATION PLANTS

HEEK (DE) GALVANISATION PLANT

Opened at the end of 2013
Size: Roofed surface of over 12,000 m² for finishing, commissioning and storage
Basin dimensions: L 8.00 x W 1.45 x D 3.2 m

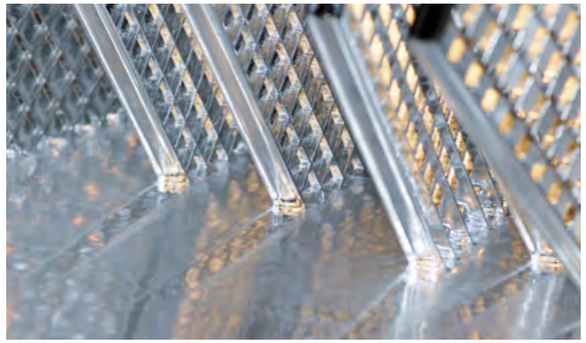
STADTLOHN (DE) GALVANISATION PLANT

Opened at the beginning of 2001
Size: Roofed surface of over 6,500 m² for finishing, commissioning and storage
Basin dimensions: L 7.00 x W 1.20 x D 2.50 m

SULZ (DE) GALVANISATION PLANT

Opened at the beginning of 2009
Size: Roofed surface of over 4,500 m² for finishing, commissioning and storage
Basin dimensions: L 7.20 x W 1.30 x D 2.80 m

GLOS (FR) GALVANISATION PLANT



Opened mid-2024
Size: Roofed surface of over 5,000 m² for finishing, commissioning and storage
Basin dimensions: L 7.00 x W 1.45 x D 3.00 m

Cutting-edge control technology

At the Heek plant, our newest location in Germany, we have been working with the most cutting-edge control technology and an optimised plant layout for the best galvanisation preparations since the very beginning. All equipment in our other plants is also fully automated and computer controlled to ensure the highest quality, occupational safety and environmental protection standards.

A pioneer in environmental protection and health and safety

We have enclosed all steps with emissions in the galvanisation process at our plants under a constant vacuum. This measure has been in place at our Stadtlohn plant for 24 years. This made us a pioneer in environmental and occupational safety throughout the entire galvanisation sector and set a new benchmark in the granting of plant permits. We are continually improving and refining the equipment in all of our plants.

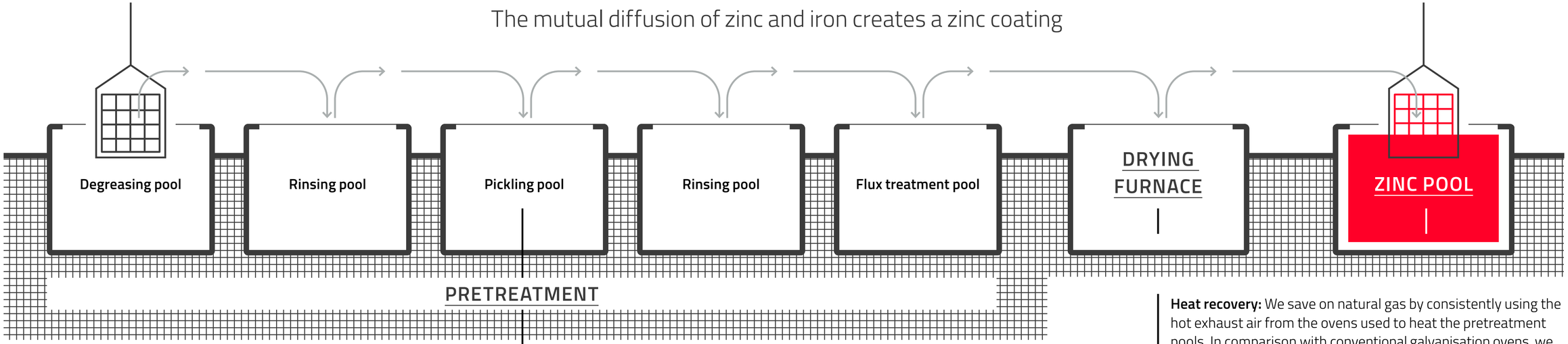
Especially resource-saving flux treatment preparation (subsidised by the Federal Environment Agency)

Lichtgitter was ahead of the game with the innovative flux treatment preparation process developed in 2009 in Sulz. Today, all Lichtgitter plants already have the second generation of preparation equipment installed. Thanks to the continual preparation of the flux used in pretreatment, this has to be exchanged less frequently which means less hazardous material has to be transported. The formation of hard zinc is also less likely in the zinc pool, which means less of the raw material is used.

Electric induction heating

Electric induction heating, rather than using gas, is especially good for the galvanisation basin. This increases the service life of the galvanisation basin. Replacing the basins is a very elaborate process. We are currently looking into the possibility of switching to electric heating at the German plants too, and using electricity from photovoltaic or hydrogen power.

SUSTAINABILITY IN THE GALVANISATION PROCESS



Maintaining acids separately: Diluted hydrochloric acid is used for the pickling process. The pickling treatment is enriched with zinc and iron in separate pools, so that as much waste as possible can be reused.

Cogeneration units in the plants: We generate electricity and heating on site at the plants in Heek and Stadtlohn. We use the heat produced during electricity generation to heat the pretreatment vessels.

Exhaust air purification: We have recorded minimal emissions in the exhaust air created through the permanent washing in pretreatment. These emissions are many times below the permitted levels.

Heat recovery: We save on natural gas by consistently using the hot exhaust air from the ovens used to heat the pretreatment pools. In comparison with conventional galvanisation ovens, we also save approximately 1,000 tons of carbon emissions. The level of energy consumption in our galvanisation plants is up to 96 per cent.

Pulse-controlled burner technology: Temperatures are constantly monitored at all German locations ensuring even heat distribution during zinc smelting. This puts our energy consumption per tonne of galvanised material below the industry average.

Zinc recycling: Zinc ash and hard zinc, which are created during the galvanisation process, are collected and recycled.

Low-carbon zinc: We have already identified suppliers for low-carbon zinc and plan to use this material in future projects.

CO_2

Carbon footprint: We are currently in the process of identifying and recording all energy consumption at our galvanisation plants in order to produce reliable and verifiable data for each plant from 2025. We can then use this in future to document our climate protection progress.

WORKING TOGETHER FOR A BRIGHTER FUTURE

TRANSFORMATION AT LICHTGITTER? WE'RE ON IT. STRUCTURED PROCESSES AND TRANSPARENT COMMUNICATION ARE THE PILLARS OF OUR MODERN CORPORATE CULTURE.

LEAVING A SUSTAINABLE MARK ON THE WORLD

“Let’s leave a sustainable mark on the world”. With these words in mind, we opened a new chapter at Lichtgitter in 2020. Established as a traditional family company in 1929, Lichtgitter has evolved over the years: Our Group has grown, and we are now active in 19 countries and in diverse cultural regions. Around 1,600 people work for us. At the same time, global competition has become more fierce and the challenges are much more diverse.

CULTURE IS THE KEY TO SUCCESS

We have adapted our corporate culture to these changes, and are creating the foundation for Lichtgitter’s future success with a far-reaching transformation process launched in the parent company in 2020. The change process will be rolled out to the subsidiaries and thus further out into the Group.

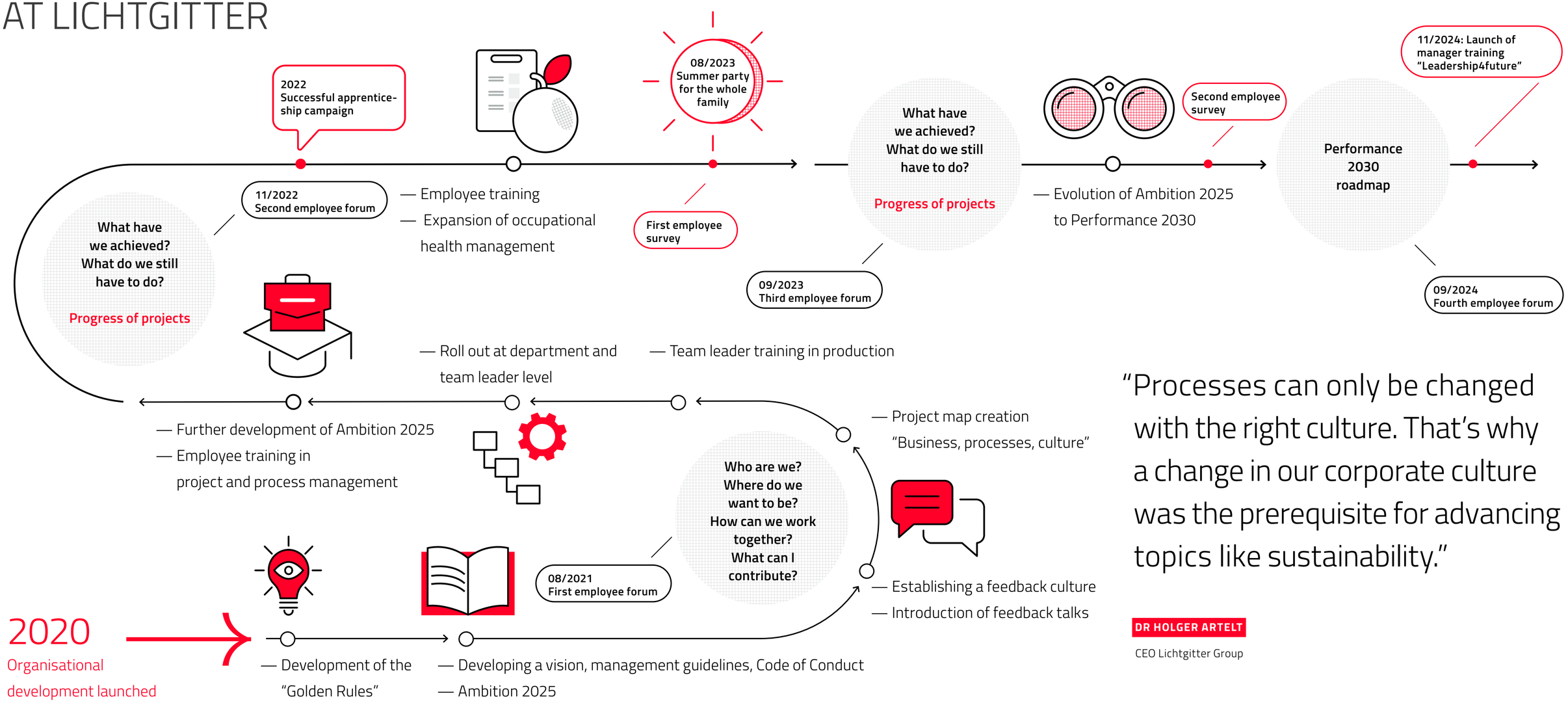
We’re moving from traditional structures to structured processes and a modern corporate culture – and sustainability is a firmly integrated part of this culture. We measure our progress using clearly defined key figures and through our annual employee survey.

“We appreciate our varied and diverse work. Working together as a team is important, because we learn from one another and grow together.”

BURAK DOGUZ | TOM HESSE | VIKTOR BAUER

Production employees at Lichtgitter GmbH

DEVELOPING A NEW CORPORATE CULTURE AT LICHTGITTER



"Processes can only be changed with the right culture. That's why a change in our corporate culture was the prerequisite for advancing topics like sustainability."

DR HOLGER ARTELT
CEO Lichtgitter Group

COMMITTED TO CHANGE

"You can feel the change in culture in our day-to-day work together. Exchanges are more open, there is an atmosphere of trust, and decision-making is more transparent. It binds us together and keeps everyone motivated."

AARON KESSLER

Team Lead in Final Assembly at Lichtgitter GmbH

These are the topics we are focussing on to push forward the change in our corporate culture:

Communication and culture

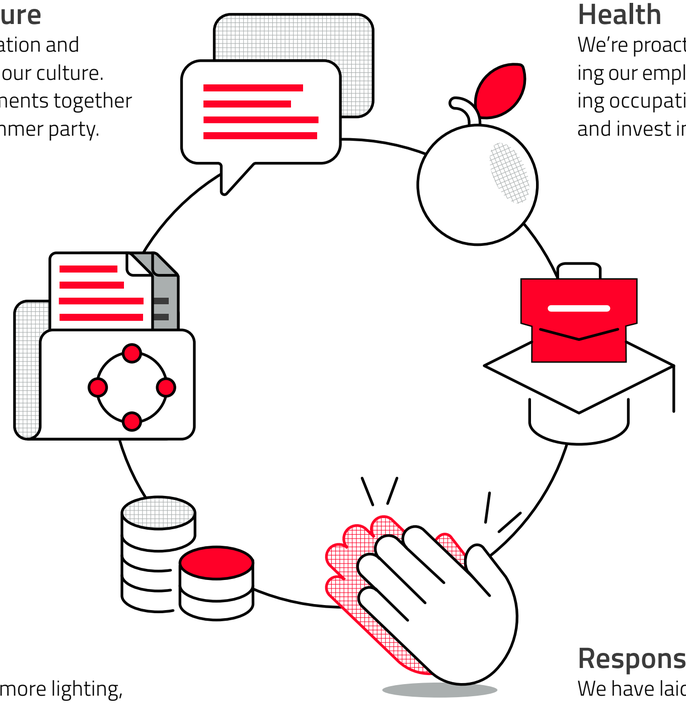
Communication based on appreciation and partnership is one of the pillars of our culture. This includes celebrating achievements together and organising events like our summer party.

Health

We're proactive about promoting and safeguarding our employees' health. We have a wide-ranging occupational health management scheme and invest in occupational safety.

Inclusion

Employee forums, sounding boards and annual employee surveys keep the lines of communication open between management and workforce.



Our commitment to the next generation

Good training opportunities and attractive working conditions don't stay secret for long. Over the years we have seen a significant rise in the number of applications we receive and our number of apprentices. Our apprentice campaign received the "2024 German Brand Award".

Working environment

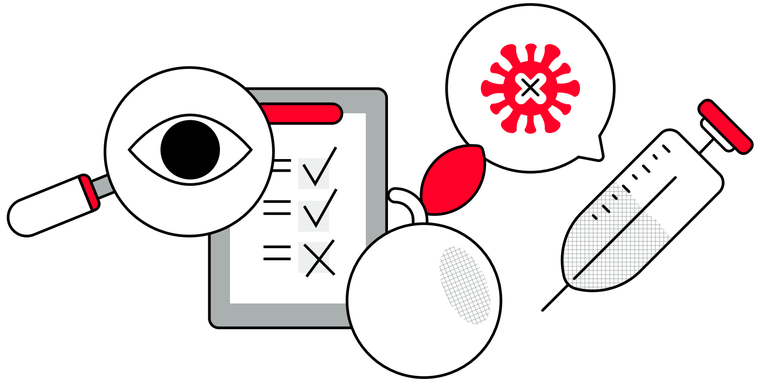
New canteens and break rooms, more lighting, new flooring – the environment we work in affects the quality of our work, which is why we continually invest in this.

Responsible conduct

We have laid out our values and principles in our Code of Conduct. Our aim is to behave in an economically viable, socially responsible and environmentally friendly manner toward all of our stakeholders.

FIT FOR WORK

TOP QUALITY OCCUPATIONAL HEALTH MANAGEMENT



We want to detect and prevent risks before any illness takes hold. That's why we rely on our top quality occupational health management (OHM). In addition to flu vaccinations, back examinations and sports activities, Lichtgitter also offers comprehensive check-ups.

One thing we have discovered through check-ups is that many employees struggle with back problems and good nutrition. We have implemented a number of measures to combat these issues: We offer nutrition and fitness workshops, organise team events that include sports and offer healthy snacks. Once our employees have been with us for ten years, we give them supplementary health insurance.

"It's clear to me that employees are the focal point of our corporate strategy. We put a lot of effort into employee well-being and are constantly improving communication. We're committed to achieving a sustainable, employee-centred culture."

SONJA SCHWEERS

HR Specialist at Lichtgitter GmbH

‹ OHM team
Lichtgitter GmbH

FROM GREY TO GREEN

STEEL MUST BECOME “GREENER” IN ORDER TO LOWER CARBON EMISSIONS. LICHTGITTER FULLY SUPPORTS THIS TRANSFORMATION.

READY FOR GREEN STEEL

Around 90 per cent of our Scope 3 carbon emissions are generated through the base material that is key to the manufacture of our gratings, that is during steel production. We only have an indirect impact on this upstream process, for example, we can look for low-carbon steel or support the production of green steel.

We have agreements in place with our long-term partners – our steel suppliers. We have been able to source low-carbon steel since 2023, and we can offer our customers gratings made from this material. Capacities to produce steel without the use of coal are currently being expanded. From 2027, for example, decarbonised steel from a new hydrogen-based direct reduction plant will be available from Europe's largest steel production site in Duisburg.

We're following these developments closely at Lichtgitter and support the transformation process to the fullest of our ability. However, being effective and achieving noticeable reductions in carbon emissions will require structural changes within the entire sector. Everyone will have to get on the same page. We're ready to do just that and are working with our partners to overcome the challenges we all face.

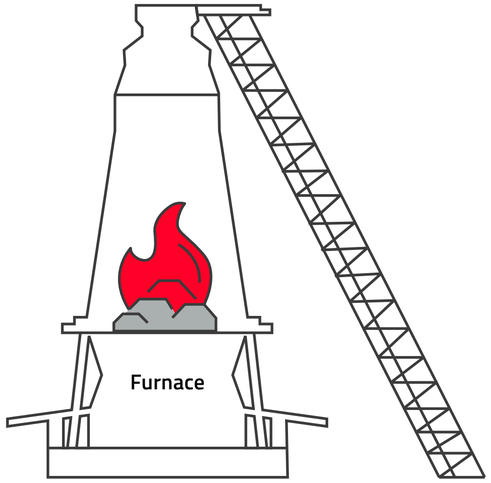
"The challenge when it comes to green steel is not just manufacturing it, but also the volumes required. In order to achieve the reduction in carbon emissions necessary to achieve climate neutrality, we need the capacity, the infrastructure and enough buyers."

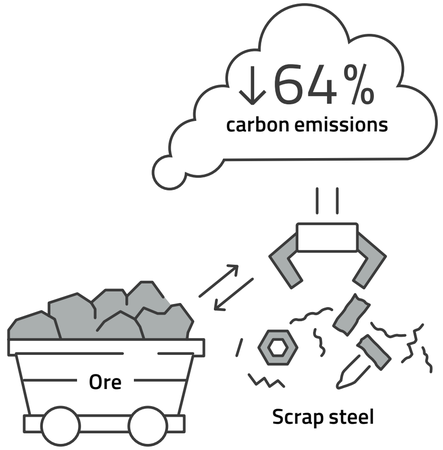
HERMANN STENGEL

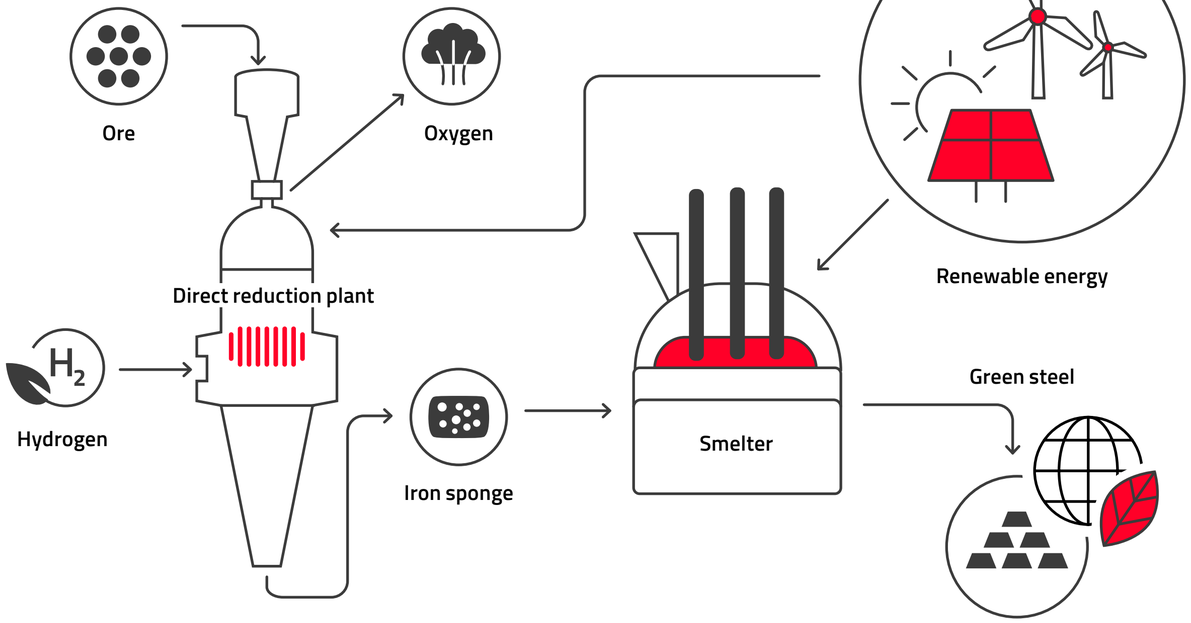
COO Lichtgitter Group

CHANGES IN STEEL PRODUCTION:

The amount of energy required to produce steel – the most important base product for Lichtgitter gratings – is high. Energy consumption can be lowered through a variety of ways, making the steel more "green".







CONVENTIONAL STEEL PRODUCTION → LOW-CARBON STEEL → DECARBONISED STEEL → GREEN STEEL

During conventional steel production, iron ore is smelted in coal-fired furnaces to up to 2,000 degrees Celsius and then "reduced" to pig iron, which dissolves the oxygen in the ore. The pig iron is then processed further into steel.

A part of the ore is replaced with high-quality scrap steel during the manufacture of recycled steel. This means less coal is required for reduction and carbon emissions are up to 64 per cent lower.

Pig iron is manufactured without the use of coal in hydrogen-based direct reduction plants: During direct reduction (at around 700 to 900 degrees Celsius) hydrogen dissolves the oxygen in the ore without melting it. The resulting iron sponge is smelted in electric smelters and then processed further in the steel works.

Decarbonised steel is considered "green" when the energy required to manufacture it comes from renewable energy sources, for example if the hydrogen used in the direct reduction is generated via wind or solar power and the electricity for the smelter comes from renewable sources.

GOOD FOR THE CLIMATE

A NUMBER OF MEASURES ARE IN PLACE TO HELP US LOWER OUR CARBON FOOTPRINT. INNOVATIVE LICHTGITTER PRODUCTS ARE ALSO USED BY OUR CUSTOMERS IN A VARIETY OF “GREEN” PROJECTS.

ENERGY EFFICIENCY THROUGH PLANT RENOVATION

We are gradually renovating our production plants in order to optimise them from an energy-related perspective and reduce heat requirements. At the same time we are improving the working conditions for employees, for example by installing new exhaust equipment and increasing the height of the halls in order to improve air quality.

RENEWABLE ENERGY FROM PHOTOVOLTAICS

We have installed photovoltaic equipment on the roofs of our buildings, thus generating sustainable solar power. The equipment installed so far has a total output of 2,939 kWp.

Development in this area, such as installing PV equipment in free spaces, opens up interesting options for switching energy-intensive processes like galvanisation to renewable energy in the future, for example.

LONGER SERVICE LIFE THANKS TO INNOVATIVE SOLUTIONS

With innovative solutions, developed especially for offshore application, we ensure that our gratings are up to the challenging conditions at sea. The products we develop are used, for example, in the world's largest wind park, Dogger Bank, in the North Sea.

DETERMINING CARBON FOOTPRINT AND LOWERING CARBON EMISSIONS

Manufacturing and then galvanising gratings from steel involves energy-intensive processes that cause emissions. That makes it all the more important that we generate carbon footprints for the entire Lichtgitter Group and put measures in place to emit less carbon. That's how we'll gradually achieve the ambitious goal of carbon neutrality by 2025.

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Lichtgitter locations around the world

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