

Doosan Lentjes

Corporate Social Responsibility Report 2018



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Responsible for the CSR report:
Board of Management & CSR Team,
led by Roland Muszkiewicz

Report released in May 2019



CSR Strategy & Goals

CEO Message about the CSR Strategy & Goals



Estimated readers,

It is our pleasure to share the 2018 issue of our Corporate Social Responsibility Report (CSR) report with you.

At Doosan Lentjes, we believe that a solid CSR strategy is not only our corporate duty, but is also critical to developing a sustainable business. This is why, our business is committed to making a positive contribution to the community, to the environment and to the well-being of our workforce.

To implement the CSR strategy, we have developed three key pillars on which our activities are built: Education, Sustainability and Community.

Education embraces our commitment to people development and to the promotion of science, technology, engineering and mathematics (STEM) subjects amongst young people. Our sustainability efforts focus on minimising the environmental impact of our operations and prioritising product quality, health and safety. Our emphasis on community provides us with a framework for making a positive difference in those communities in which we work.

In 2018, we implemented a number of valuable activities as part of our CSR program. Highlights included our first Health Day which was carried out in the framework of our organisational health management. With the annually held Doosan Day of Community Service we again contributed to make a positive difference to the community in which we work. And our continuous efforts in increasing the efficiencies of our technologies help to make power generation more sustainable to the benefit of generations to come.

Following the Doosan Group's mission to become one of Fortune's Most Admired Companies by 2020, we have put sustainability and responsibility in the centre of decisions we make, technologies we create and the way we improve our business model, products and services. Unified in those shared values, we jointly aspire to create a Proud Global Doosan – a leading innovator of products and services that improve the quality of life for people and communities around the world.

Through our CSR strategy, we will be admired for the work we do, our respect for people, communities and the environment and, last but not least, for being united in our shared goals and values across all Doosan businesses.

Now, we hope you enjoy reading this report. In the case you wish to receive some more detailed information, please refer to the Integrated Report 2018 released by our parent company, Doosan Heavy Industries & Construction.

Thomas Stetter
Chief Executive Officer



Company Profile

Doosan Lentjes is a global provider of processes and technologies for energy production from both sustainable and conventional fuels. The company’s specific areas of expertise include circulating fluidised bed (CFB) boilers, key technologies for the generation of energy from waste and sewage sludge, as well as, flue gas cleaning systems. Doosan Lentjes’ technologies have been pioneering energy solutions for 90 years and convert millions of tonnes of waste into energy every year.

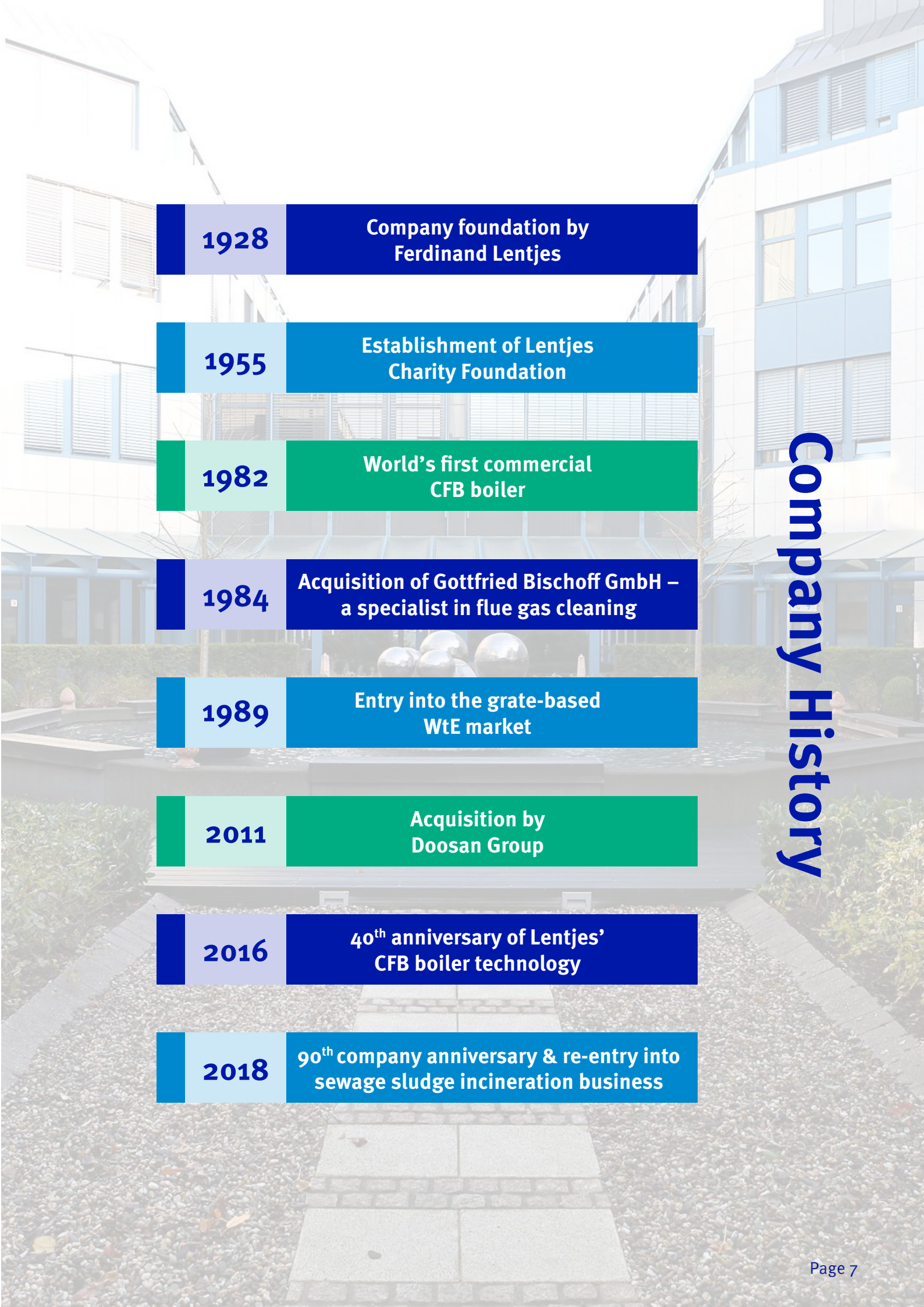
Doosan Lentjes is part of a powerful combination of companies united under the Doosan Group to deliver complementary technologies, skills and value to customers the world over.

Thoroughly
engineered
solutions

Customer
dedication

Future
orientation

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1928	Company foundation by Ferdinand Lentjes
1955	Establishment of Lentjes Charity Foundation
1982	World’s first commercial CFB boiler
1984	Acquisition of Gottfried Bischoff GmbH – a specialist in flue gas cleaning
1989	Entry into the grate-based WtE market
2011	Acquisition by Doosan Group
2016	40 th anniversary of Lentjes’ CFB boiler technology
2018	90 th company anniversary & re-entry into sewage sludge incineration business

Company History

Business Performance & Strategy

Doosan Lentjes delivers outstanding, integrated solutions to its clients around the globe. The aim is to strengthen the position in key target and emerging markets through a global network of strategic alliances. In doing so, Doosan Lentjes benefits from its global experience, continuous technology developments, excellent project management and well-committed employees.

Working as technology provider or full EPC contractor, Doosan Lentjes' main focus lies in serving the global energy industry with innovative solutions across WtE, SSI, CFB and AQCS. Against this background, Doosan Lentjes aspires to establish long-term client relationships built on mutual trust. Accessing emerging regions, such as, Middle East, India, Eastern Europe, Latin America, and South East Asia enables to open new market potentials.

Apart from extensive in-house EPC capabilities, Doosan Lentjes can cooperate with internationally experienced and competent general contractors also encompassing its parent company, Doosan Heavy Industries & Construction (DHIC), based in South Korea. As the global Center of Competence for its product lines within DHIC, Doosan Lentjes has a strong focus on identifying new market trends while converting them into innovative solutions serving changing customer requirements. As a member of the global Doosan Group, Doosan Lentjes draws back on extensive in-house sourcing and manufacturing capabilities which has positive effects on efforts to deliver cost-optimised solutions. Core values, such as, open communication, QHSE (quality, health, safety, and environment) and social responsibility make Doosan Lentjes' business activities follow high ethical and social standards.

Following a corporate-wide so-called "2G" strategy meaning that growth of business leads to growth of people and vice versa reflects the Doosan Lentjes understanding that people are the company's greatest asset. This is why Doosan Lentjes puts extensive efforts in recruiting, training and developing the very best talents of tomorrow. This people power along with focused R&D activities in in-house research centers builds a valuable combination to develop innovative energy concepts meeting the most demanding requirements of customers in both core and emerging markets – now and in the future.



Stakeholder Engagement & Communication

The intensive communication with our stakeholders ensures the sustainable implementation of our CSR Strategy and the achievement of our shared goals. Doosan Lentjes defines stakeholders as individuals or organizations that have a significant influence on the management of the company. Active mutual communication is enabled through communication channels for each group of stakeholders, and important changes of stakeholder requirements and expectations are examined on a regular and constant basis to reflect to the board of management.

Type of Stakeholder	Individual Stakeholders	Communication Channels
Shareholders 	<ul style="list-style-type: none"> Doosan Heavy Industries & Construction (DHIC) 	<ul style="list-style-type: none"> Personal meetings / video conferences Workshops Intranet
Customers 	<ul style="list-style-type: none"> Doosan Heavy Industries & Construction (DHIC) EPC companies / utilities / IPPs Waste management companies Local / regional governments 	<ul style="list-style-type: none"> Roadshows, exhibitions & conferences Personal meetings / video conferences Local & global trade press Website & social media
Employees 	<ul style="list-style-type: none"> Headquarter employees Branch offices' employees Subsidiaries' employees 	<ul style="list-style-type: none"> Staff assemblies Health & Safety Committee Work Council meetings Intranet & staff magazine
Suppliers 	<ul style="list-style-type: none"> National & international suppliers Strategic partners Occupational medical services Manufacturers Doosan Group 	<ul style="list-style-type: none"> Trade shows Conventions & experts conferences Press releases
Local Community 	<ul style="list-style-type: none"> Local residents Social organisations NGO's 	<ul style="list-style-type: none"> Programs affiliated with social welfare centres Local business forum Social day Local media
Government/ Authorities 	<ul style="list-style-type: none"> Central / local governments Authorities / related organisations Insurance companies 	<ul style="list-style-type: none"> Website Local & global trade press Trade associations
Competitors 	<ul style="list-style-type: none"> National & international competitors 	<ul style="list-style-type: none"> Exhibitions & conferences Local & global trade press Website & social media Trade associations



Implementation of the global CSR Strategy

Sustainability: Clean Energy Generation Solutions

Doosan Lentjes’ advanced technologies for WtE, SSI, CFB boilers and AQCS help clients around the globe to generate power and heat efficiently and environmentally-sound from both sustainable and conventional fuels. With our continuous investment in research and development, we ensure increasing the efficiencies of our technologies and, thus, improve their environmental performance.

When recycling is not possible, WtE is the final, indispensable stage of a modern waste management concept according to the European waste hierarchy. Our WtE technologies reduce waste volumes by more than 90% which helps to be less dependent on landfill sites and, thus, eliminate harmful methane emissions. Simultaneously, our processes generate highest possible energy yields from the residual waste. Converting waste into valuable energy allows reducing the reliance on conventional fuels, like coal, petroleum or gas. The energy extracted from the residual waste can be used to produce steam, heat and power for both domestic and industrial applications. And because more than 60% of the energy contained in the waste comes from sustainable sources, it is largely CO₂-neutral. In addition, our WtE technologies enable the recovery of valuable materials from the bottom ash left over from the incineration. These materials include recyclates, such as, ferrous and non-ferrous metals which can be used for construction purposes. What’s more, the WtE process generates minimal emissions that are significantly below European requirements as per Best Available Techniques Reference (BREF) documents of the Industrial Emissions Directive (IED).

Municipal sewage sludge contains, among other nutrients, valuable phosphorus which is a naturally limited resource. New legal directives applied in Germany provide for recovering this phosphorus from the incineration ashes to ensure that sewage sludge treatment becomes more sustainable in the future. By applying our advanced sewage sludge incineration technologies, phosphorus can, in full accordance with governmental requirements, be recovered and used for e.g. fertilising purposes. At the same time, our processes ensure decreasing the reliance on dumping which, in turn, reduces the environmental pollution and associated health risks affecting the public. Emissions values achieved in sewage sludge incineration plants are significantly below the European requirements.

Our proven CFB boiler technology has the flexibility to reliably burn a number of different fuels, including green, climate-friendly biomass. This allows decreasing the reliance on conventional fuels in the long-term and helps to globally implement more sustainable energy generation concepts. Moreover, together with our colleagues at DHIC, we develop advanced CFB boiler technology capabilities for supercritical (SC) and

ultra-supercritical (USC) steam conditions with outputs of up to 600 MWe per unit. These units achieve net efficiencies of up to 45% which helps to optimise the use of the applied fuels and, thus, save resources and minimise the impact of the power generation process. Simultaneously, these increased efficiencies enable reducing the emissions.

Our cutting-edge flue gas desulphurisation (FGD) solutions are designed to remove sulphur dioxide (SO₂) from the flue gas of a number of different applications, such as, power stations, WtE facilities or industrial plants. SO₂ is a toxic gas that is responsible for acid rain. With SO₂ removal efficiencies of up to 99%, our processes significantly reduce the negative environmental impact of steam generation whilst being in line with even the most stringent European emissions directives (IED).

We are proud that, with our state-of-the-art processes, we can make a positive contribution to shaping a more sustainable power future for generations to come.

Waste-to-Energy Plant, Harlingen,
the Netherlands



Sustainability

efforts focus on minimising the environmental impact of our operations and prioritising product quality, health and safety.

Sustainability: Environmental Management

In 2013, Doosan Lentjes, on a voluntary basis, has introduced an Environmental Management System aiming at improving the environmental balance of our business activities. In this context, one of the environmental objectives is to continuously optimize the designs of our products from an environmental point of view.

Our optimization efforts have, for example, allowed us to significantly reduce the footprint required for our CFB boiler plants. This enables saving valuable resources. Less resource utilization means less energy demand required for its processing and transportation. Less energy demand and transportation services required, in turn, lead to less fuel consumption which positively affects the release of emissions.

As we are certified according to TÜV DIN EN ISO 14001:2015, we are placed under consistent self-challenge to implement measures to improve the sustainability of our plants. This includes the requirement to consider the full cycle of our plants starting with designing through operation and demolition.

Another important element of our efforts on environmental protection is our Code of Conduct for Contractors that requires all our sub-contractors to follow, amongst others, sustainable behavior.

Sustainability

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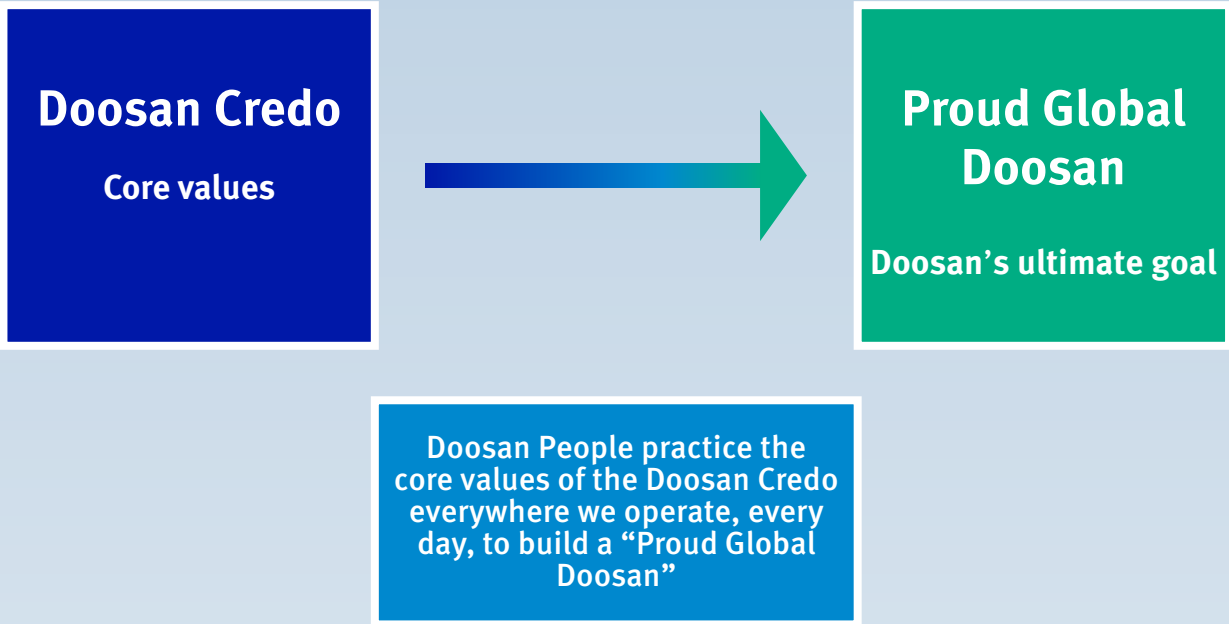


Sustainability: Doosan Credo

We, at Doosan Lentjes, are committed to living our core values that are defined in the Doosan Credo. It represents Doosan’s philosophies and our unique way of doing business. These principles have been the foundation of Doosan’s success for the past century. The Doosan Credo is integral to every aspect of our business and people, clearly guiding our decisions and the way we do business. The Credo consists of Doosan’s “Aspiration” as the ultimate goal to create a “Proud Global Doosan” and the “Core Values”. In applying these core values, we focus on conducting our business activities in full compliance with applicable laws, rules and regulations and strive at continuously improving our social and environmental performance throughout our entire value chain.

Our annually held compliance training developed for all our people ensures that all employees have a full understanding of legal requirements in respect of e.g. corruption and anti-bribery commitments.

We, at Doosan Lentjes, understand that our suppliers make a vital contribution to our performance which is why we aspire to create long-term mutually beneficial relationships that help to ensure consistent quality. In carrying out our daily business, we are always mindful of our ethical and social responsibilities and our commitment to sustainability and transparent business practices. In order to achieve this, we have established our Code of Conduct for Contractors that is based on our corporate values. This helps us to make sure our suppliers follow ethical and responsible behaviour, practices and standards while fully complying with all applicable laws and regulations.



Sustainability
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Sustainability: City Cycling

In 2018, Doosan Lentjes carried on the tradition to participate in the annual sustainability initiative “City Cycling” held in different cities across Germany. The idea is to encourage people to take the bike instead of the car in order to protect the environment. This time, more than 20 of our employees took part and cycled approx. 4,500 km. This was equivalent to avoiding roughly 640 kg CO₂ of emissions.

For comparison – our results in previous years:

2016

20 participants
4314 km cycled
612 Kg CO₂ emissions avoided

2017

20 participants
4600 km cycled
665 Kg CO₂ emissions avoided

Sustainability

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Sustainability: Safety & Health

Doosan Lentjes regards its employees’ vocational safety and health, as well as, protection of the environment, as its No. 1 priority. By preparing a safety and health management system in accordance with OHSAS 18001:2007, it prevents and minimizes the top risks determined during work, and strives to eliminate the effect on the environment due to plant and site accidents, as well as, injuries. Also, it actively studies any dangerous activities and situations performed by or taking place by not only its employees, but also anyone in cooperation with Doosan Lentjes. These include customers, contractors, subcontractors, and suppliers before actively encouraging everyone to participate in solving the issues, achieving common objectives, and proposing measures for improvement. In order to promote safe behaviour on our construction sites, we have implemented a “Zero Tolerance Policy“, which is reinforced by a consequence management system with colour-coded cards.



**View of Doosan Lentjes’
reference plant in Belfast,
Northern Ireland**



**Colleagues from Doosan
Lentjes wearing personal
safety equipment at the
construction site**

Sustainability

efforts focus on minimising the environmental impact of our operations and prioritising product quality, health and safety.

Doosan Lentjes’ employee at a reference plant in Berlin, Germany



Sustainability: Health Day

On 25 September, Doosan Lentjes carried out its first Health Day which was part of the organisational health management program. Cooperation partners were the German health insurance company TK (Techniker Krankenkasse), the Employers' Liability Insurance Association Wood & Metal, as well as, the TÜV Occupational Medical Service.

The aim of the event was to increase the employees' awareness of health related issues and to make a positive contribution to both their job satisfaction and motivation. For this purpose, health care professionals delivered lectures on different topics and offered relaxation courses. Moreover, people could receive important information on health-promoting work place designs and healthy nutrition. Stress tests and muscle tone measurements were also part of the program that was rounded off by a fruit and vegetables buffet on offering during the day.



Fruit and vegetables buffet on offering during the Health Day



Doosan Lentjes' employees could guess the amount of sugar contained in the different food and drinks

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Doosan Lentjes together with representatives from TK Insurance Company



Education: Dissertation Support

Doosan Lentjes supported its Product Manager for Wet Flue Gas Desulphurisation (FGD), Kai Kehrman, in implementing a research project carried out within the framework of his doctoral thesis. The thesis, written at the Institute for Heat and Mass Transfer of the RWTH Aachen (Rheinisch-Westfälische Technische Hochschule Aachen), addressed absorption efficiencies in seawater FGD scrubbers. End of 2018, the Board of Management was pleased to be able to congratulate Kai on passing his doctorate.

The company has established the support of dissertations and MBA programs as an integrated part of its CSR activities to cultivate and develop the talents of tomorrow.

Campus RWTH Aachen



CEO, Thomas Stetter (right) & Product Director, Frank Oberheid (left) congratulate Kai Kehrman on his doctorate



Thomas Stetter shaking hands with Kai Kehrman on the occasion of his doctorate

Education

embraces our commitment to people development and to the promotion of science, technology, engineering and mathematics (STEM) subjects amongst young people.



Education: Girls' Day

In 2018, for the third time, Doosan Lentjes opened its doors at its premises in Ratingen to approx. 15 girls and invited them to learn more about the global plant engineering business.

The pupils aged between 14 and 15 had the chance to experience via 'virtual reality' a walk through a WtE plant allowing them to see the inside of a large plant whilst learning about the processes applied. A subsequent physical visit to a pilot plant close to the office was a good opportunity to make the complex plant business more tangible to the young girls. Last, but not least, the pupils explored some of Doosan Lentjes' technical departments including process, mechanical and electrical engineering, as well as, plant layout.

The Germany-wide "Girls' Day" is an initiative that aims at encouraging young girls to start a career in typically male-dominated disciplines, such as, science, technology, engineering and maths (STEM).



Credit: Kompetenzzentrum Technik-Diversity-Chancengleichheit e. V.

Education

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Community: Doosan Day of Community Service

As in previous years, Doosan Lentjes joined colleagues around the globe in making a difference to local communities. In Ratingen, Radebeul and Prague, almost 50 people carried out social activities including classroom painting, cleaning green areas from waste, as well as, arranging food for people in need.

The activities were part of the Doosan Day of Community Service – a global initiative held once a year and developed to raise awareness of corporate social responsibility (CSR) among all Doosan employees across the world.

People from across several Doosan businesses in a number of countries contributed in the Doosan Day of Community Service volunteering their time in support of local communities.



Colleagues from Prague provided window cleaning support for a social facility



Employees from the Ratingen office helped a local school to paint a childrens' playhouse

Community
provides us with a framework for making a positive difference in those communities in which we work.



Employees based in Ratingen provided painting support at a local refugee home



Colleagues from Ratingen made jam for people in need at the local food bank

Community: Metro Marathon

In 2018, same as in previous years, Doosan Lentjes' employees again ran for charity participating in the Metro Group Relay Marathon that took place in Düsseldorf, Germany.

On Sunday, 29 April, close to 15 employees from the offices in Ratingen, as well as, Prague met in the city of Düsseldorf to keep the team and community spirit alive.

The donations from both colleagues, as well as, the Board of Management, were given to “Ärzte ohne Grenzen” (Médecins Sans Frontières) – an internationally active initiative providing medical care for people in need, e.g. those experiencing the consequences of natural disasters or suffering from local crises.



Credit: Metro Group

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Community: Make-a-Wish Christmas Tree Campaign & “Santa Claus” Party

Following last years’ tradition, Doosan Lentjes continued to create a magical Christmas time for young people in need including refugee children and children from low income families. Doosan Lentjes organized several initiatives including a “Make-a-Wish Christmas Tree” campaign and a “Santa Claus” party helping spread some festive cheer amongst the children.

The annual “Make-a-Wish Christmas Tree” campaign involves hanging children’s wishes written on cards on the tree’s branches allowing Doosan Lentjes’ employees to make wishes come true.

With the “Santa Claus” party, Doosan Lentjes aspired to make the refugee children and their families feel welcome in their new home – an important experience for most of them fleeing war, poverty and political grievances in their home countries.

Thanks to the great commitment of its employees, Doosan Lentjes could continue to support children suffering from poverty and difficult living conditions in Germany.



One of the mandalas painted during the “Santa Claus” party

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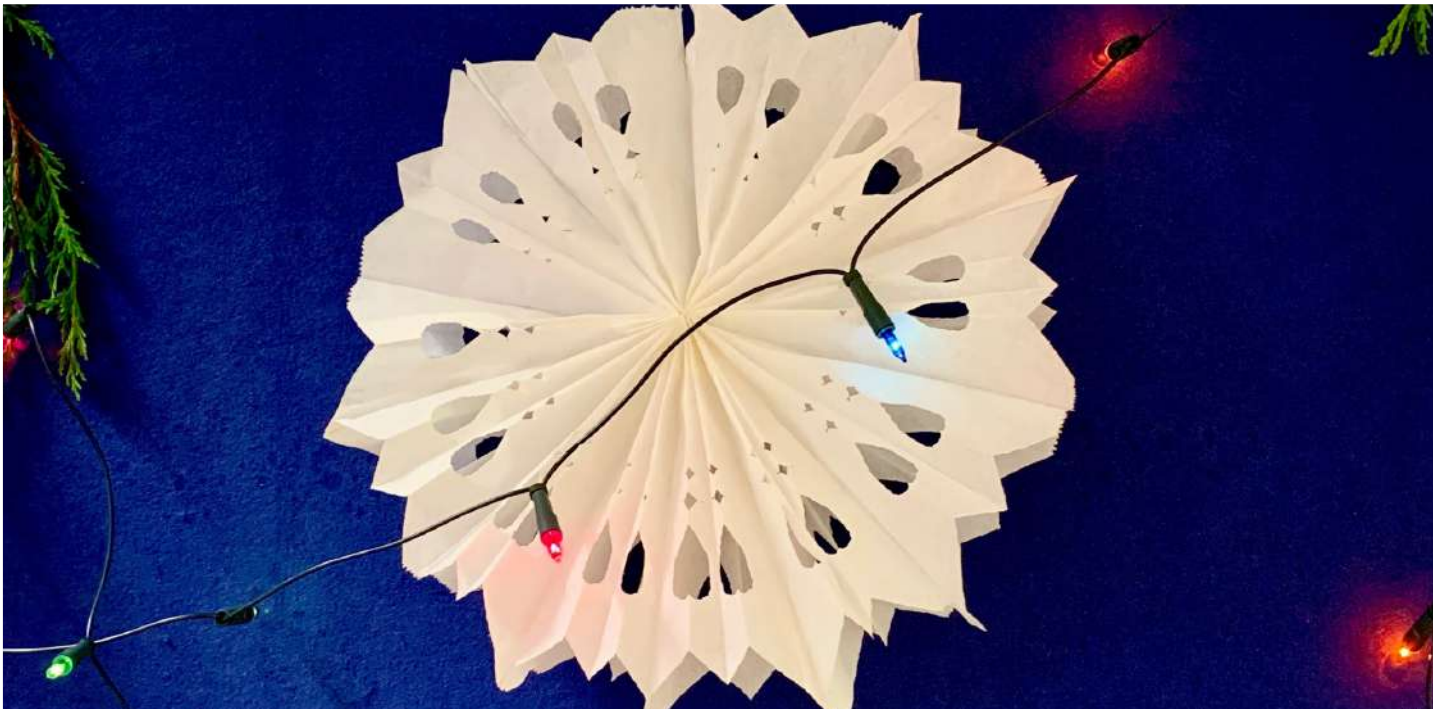
Christmas decorations and biscuits



Supporters from both Doosan Lentjes and Rättinger Tafel together with one of the participating children



A paper Christmas star developed as part of the handicrafts activities



Community: Book Sale for “Médecins Sans Frontières”

Established in 2013, we have continued to support social organizations with our book sale donations. Employees have the chance to bring books they no longer require to some canteen-based book shelves while, in return, employees who are interested can take the books after paying a small fee. The money collected supports the globally-acting organization „Médecins Sans Frontières“ in their efforts to deliver emergency aid to people affected by armed conflict, epidemics, healthcare exclusion and natural or man-made disasters.

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Doosan Lentjes

Doosan Lentjes is a global provider of processes and technologies for energy production from renewable and fossil fuels. The company's specific areas of expertise include circulating fluidised bed boilers, key technologies for the generation of energy from waste and sewage sludge, as well as, flue gas cleaning systems. Doosan Lentjes' technologies have been pioneering energy solutions for 90 years and convert millions of tonnes of waste into energy every year.

The company's Corporate Social Responsibility (CSR) programme is built on three pillars: Education, Sustainability and Community. Education embraces our commitment to people development and to the promotion of science, technology, engineering and mathematics (STEM) subjects amongst young people. Our Sustainability efforts focus on minimising the environmental impact of our operations and prioritising product quality, health and safety. Our focus on Community provides us with a framework for making a positive difference in those communities in which we work.

Doosan Lentjes is part of a powerful combination of companies, united under the Doosan Group to deliver complementary technologies, skills and value to customers the world over.



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