2018

Wendel and Stahl:

building a world leader in responsible chemistry
for leather and performance coatings

stahl   W
WENDEL

WENDEL

- Wendel is **one of Europe's leading listed** investment firms.
- Invests in **leaders** in their field, such as Stahl, Bureau Veritas and Saint-Gobain.
- Plans for **the long-term growth** and knows that a company's longevity depends on the balance between its **business model**, its **markets**, the **well-being of its people**, and its place in the **environment.**
- Listed on Eurolist by Euronext Paris.
- More than 310 years of history.

Management

100%

of companies have set up an environmental management system
(in particular through ISO 14001 certification of all or part of their business scope).

Health and Safety

100%

of companies have a dedicated policy
on employee health and safety, and hold training sessions.

Energy transition

80%

of companies have implemented measures to increase the share of renewable energy
in their energy consumption.

Wendel in brief

More than

€ 9 bn in gross assets

More than

6 office locations

More than

7 main investments

Employees

c. 100

Consolidated sales

€ 8,389 m

More than

€ 5 bn of capitalization

Total return (with dividends reinvested)

11,3% p.a. since 2002

"Wendel is an invaluable partner in our efforts to expand our market share."

Huub van Beijeren
CEO of Stahl

Read more about Stahl

If it can be imagined, it can be created

This document contains the information of the Stahl chapter (page 213 tm 232) of the Wendel Registration document 2018, published by the Wendel Group

stahl

HUMAN CAPITAL

1,997 EMPLOYEES
76% Men | 24% Women

61 nationalities in

24 COUNTRIES
49% EMEA
20% Asia-Pacific
16% India Pakistan
15% Americas

100 PEOPLE working on innovations every day

780 TRAINEES who completed Stahl Campus modules

1,160 EMPLOYEES who completed e-learning courses on responsible preactices

600 TECHNICAL EXPERTS

2018 SALES REVENUE

€ 867 m

MISSION

"If it can be imagined, it can be created."

VALUES

Transparency as the promoter of Sustainability and Social Responsibility.

PRODUCTS
- Leather Chemicals
- Performance Coatings & Polymers
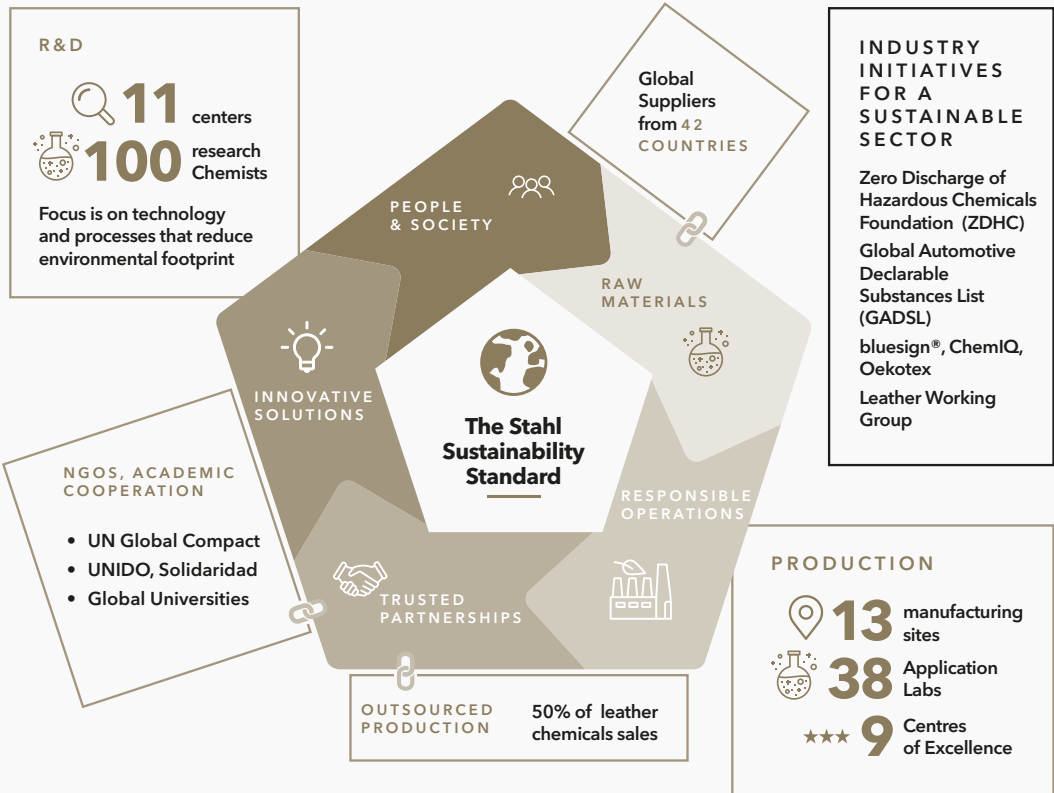
DISTRIBUTION
35 sales offices

MARKETS

Main sectors
- Automotive
- Footwear, Apparel & Accessories

Others
- Architectural & Interior Design,
- Home furnishing,
- Industrial Applications
- Leisure & Lifestyle.

R & D

11 centers

100 research Chemists

Focus is on technology and processes that reduce environmental footprint

Global Suppliers from 42 COUNTRIES

INDUSTRY INITIATIVES FOR A SUSTAINABLE SECTOR

Zero Discharge of Hazardous Chemicals Foundation (ZDHC)

Global Automotive Declarable Substances List (GADSL)

bluesign®, ChemIQ, Oekotex

Leather Working Group

The Stahl Sustainability Standard

PEOPLE & SOCIETY

RAW MATERIALS

INNOVATIVE SOLUTIONS

RESPONSIBLE OPERATIONS

TRUSTED PARTNERSHIPS

NGOS, ACADEMIC COOPERATION
- UN Global Compact
- UNIDO, Solidaridad
- Global Universities

OUTSOURCED PRODUCTION
50% of leather chemicals sales

PRODUCTION
13 manufacturing sites
38 Application Labs
9 Centres of Excellence

ENVIRONMENTAL CAPITAL

0 COAL used in Stahl manufacturing sites in 2018

100% green energy at all European factories

CO2 EMISSIONS GOAL: -10% by 2020
Status 2018 : ON TARGET

+85% of our coating solutions are water based

~90% of global production volume comes from **ISO14001/9001** certified sites.

Stahl governance

The Stahl Board, its highest governance body, consists of members from its shareholders Wendel, Clariant, BASF and Stahl. The Stahl Management team consists of the CEO, CFO, and director of Procurement, director of Innovation, director of Marketing, Communications & Sustainability and two Business Unit directors. This team meets monthly and determines the implementation of company strategy. A wider executive team, our Executive Control Group, which includes regional general managers, communications, sustainability, IT, safety & health functions, meets on a quarterly basis. This team reviews performance and decides on tactics for the coming cycles.

Manufacturing, suppliers, customers

Stahl produces its portfolio of products at its 13 manufacturing sites around the world or at outsourced locations *via* service agreements.

Stahl's suppliers are mostly large multinational chemical companies.

Stahl's customers are leather manufacturers (known as tanneries) and manufacturers of textiles and synthetic materials (known as converters or mills). These companies can range from large corporations to medium and small sized operations. Smaller customers are typically handled by Stahl's significant network of distributors around the world.

Risk from external trends

Lifestyle choices

Stahl respects consumer lifestyle choices with respect to veganism, leather, plastics and other materials used in the various market segments and it does not take a position on one or the other. While it actively supports and is part of industry initiatives to improve the environmental footprint of leather, synthetics and textile manufacturing, Stahl is also involved in the development of alternatives materials, like those made from pineapple leaves, fruit waste, mushrooms and laboratory-grown leather for example. Stahl respects the choices of brands, such as Tesla, in the automotive industry or Stella McCartney, in the luxury ready-to-wear sector about not using leather, and has adopted a perfectly transparent attitude on the alternatives to leather and their benefits and drawbacks. Stahl's Instagram account is a forum for discussion with consumers and designers that ensures respect of opinion and sharing of knowledge rather than taking a position. Indeed, the movement towards alternative materials is seen as an opportunity by Stahl, who believes it is better positioned than its competitors to adapt to such macro lifestyle trends. At the same time Stahl also is convinced that leather will continue to be a material of choice for consumers in the future, given its long term sustainable features.

Environmental impact

Most of Stahl's research and applications development is designed to reduce the environmental impact of its products, or those of its customers. This is in-line with Stahl's corporate goal of reducing the environmental footprint of the whole supply chain. For example, 25% of Stahl's basic research projects are linked to the elimination of restricted substances (i.e: as per ZDHC, Bluesign®, ChemIQ, Reach, etc., guidelines) and new raw materials to replace them. With regard to natural products, there are currently 20+ projects in R & D specifically focused on finding natural resource alternatives to petroleum based polymers for polyurethanes, a core technology for Stahl. In other chemistries Stahl is constantly looking for alternatives that are based on renewable resources. With regard to water, a majority of its research time is spent on developing water based products (already a large portion of its portfolio) or on products which reduce water pollution originating from the factories of Stahl's customers. For the Performance Coatings business, the recent market switch from solvent to water is a key driver in product development.

Stahl has also invested in Life Cycle Assessment (LCA) methodology to quantitatively measure the impact of its products on the environment, and to express it in language that the stakeholders can recognize (e.g., the impact of ozone depletion, toxicity, climate change and land use).

Sustainability & Corporate Responsibility

Goals and Strategy

Stahl's goal is to achieve a transparent supply chain that continuously reduces its environmental footprint. The Company's strategy to achieve this goal is to organize initiatives that promote transparency and to provide environmental solutions for the supply chain, involving continuous collaboration with its partners. Stahl's influential position as a provider of products and services to manufacturers of materials used in the automotive, apparel, home furnishing, footwear, garment and other related industries, is a determining factor in the implementation of this strategy. Stahl also recognizes that sustainability represents a significant opportunity, to gain competitive advantage and to drive operational excellence that creates sustainable value.

Governance Sustainability and CSR

At the corporate level, Sustainability and Corporate Social Responsibility (CSR) is part of Stahl's executive management team, which meets quarterly and sets the Company strategy. The Sustainability team meets regularly with product managers, researchers, product stewardship and operations staff to monitor the implementation of its strategy and to discuss progress on new initiatives related to innovation, portfolio management and environmental performance. The Sustainability team also supports commercial activities initiated by customers that are related to sustainability. A summary report is sent to the Stahl Board each month. KPIs (key performance indicators) related to safety, health and environment are also measured and reported monthly by regional operational staff at the Stahl manufacturing sites around the world. These KPIs are then consolidated into a global report, which is sent to the Stahl Board each month.

Risk Mapping

In 2018 Stahl carried out a detailed review of its risk assessment and control policies, in accordance with the new requirements of the Non-Financial Statement (NFS), with regards to environmental, social, human rights and corruption risks resulting from its activities. This review covered the risks linked to its employees, suppliers, and to the external supply chain that it serves. Stahl has adopted due diligence policies covering health, safety, environment and human rights that mitigate the risks identified in this review. The results displayed in Stahl's risk analysis were cross-checked with two types of organizations, used as reference sources:

■ independent standards: MSCI (Morgan Stanley Capital International) and SASB (Sustainability Accounting Standards Board);

■ companies comparable to Stahl in terms of sector of activity, operating in several countries, and disclosing on their CSR risks and materiality method.

The risks identified with the highest gross risk level[1], as agreed in preliminary work and audited at site and corporate level, are:

■ occupational health and safety of employees;

■ hazardous waste management;

■ impact on water resources;

■ GHG emissions contributing to climate change;

■ attractiveness and talent retention;

■ increase in demand and regulation for sustainable chemical products;

■ corruption.

(1) Gross risks are the risk for similar companies and activities (that impact both the company and the external stakeholders) in the same geographic area, without taking into account the effects of mitigation processes. Stahl explains for each chapter how it manages and mitigates these risks. Note: Because of the nature its activities (leather chemicals, coatings and polymers), Stahl believes that some identified risks do not represent critical non-financial risk ; responsible, equitable and sustainable food.for Stahl and do not need to be developed further in this report. These less critical risks are: fight against food insecurity; respect of animal welfare, responsible, fair and sustainable food production.

Materiality matrix

Stahl reports on Sustainability and CSR topics in order to promote transparency and display the progress made. To make sure that it reports on the topics that matter, the Company uses a materiality matrix. This tool gives insight into the challenges faced by the Company and its stakeholders. In 2018, Stahl updated its materiality matrix (as per the guidelines of GRI, the Global Reporting Initiative) by reviewing the information provided in the materiality matrix of its important stakeholders. Internally, it reviewed the input for Stahl, with a team of experts (communication and sustainability), by checking the matrix we made in 2015. The outcome of the matrix is in line with what we had already reported.

Additionally the outcome is in line with the risk assessment that was performed in 2018 under the NFS.

How to read the matrix

CSR and sustainability cover different themes. To keep a very wide view, Stahl has plotted the 33 economic, environmental or social aspects that are defined by GRI. Those that matter the most (highest impact), to both Stahl and our stakeholders, are communicated in the right top corner of the matrix. In the middle section we show the aspects that score medium. 'Other topics' are the ones that scored the lowest.

HR - Committed to maximizing the employee experience

Employment

The total number of employees (headcount) at 2018 year-end was 1,997, which is a decrease of 76 employees compared to the end of 2017. The reduction is mainly connected to the complexity reduction and Value Improvement project implemented in the Leather organization with the aim to reduce the business complexity grown significantly with major acquisitions completed in the last years.

The breakdown of FTE's (full-time equivalent) as of December 31, 2018 and the change compared to the prior year-end per region is as follows:

Region	31-Dec-18	31-Dec-17	Change
EMEA	962.5	974.9	(12.4)
Asia-Pacific	387.0	406.0	(19.0)
India and Pakistan	317.0	349.0	(32.0)
North and South America	305.6	318.6	(13.0)
	1,972.1	**2,048.5**	**(76.4)**

86% of Stahl's employees are on permanent contracts. Its workforce is 76% male and 24% female.

Total Full Time Employees (FTE) leaving (dismissals, resignations and other) during 2018 were 272 and 195 joined in the same period. These ratios are reasonable and in line with the market for the kind of activities and the location in which they take place. The turnover rate in 2018 was 10.58% compared to 14.2% in 2017.

The turnover rate (only resignations) in 2018 was 5.05% compared to 4.25% in 2017.

Working Organization

Stahl operates through a complex international organization for historical reasons and also to effectively serve the customer base. Stahl has 13 manufacturing sites, 11 R&D centers, 38 application labs, 35 sales offices and 9 Centers of Excellence. Working practices differ by region.

he majority of the Stahl units have a 5 day working week, with exception of India and Pakistan where they also work on Saturday mornings. Working hours and incidents are recorded, depending on the site, by either electronic or manual systems.

All Stahl units report absenteeism (which includes absences for sickness and work accident) as required by local legislation but also in a way that can be reported at the corporate level.

The global absenteeism rate in 2018 was 1.70%, compared to 1.57% in 2017.

Labor relations

Given the international set up of Stahl and the relatively small dimension of the local units, there are only two local company collective bargaining agreements in place. These are negotiated at local level with the direction and supervision from the Headquarter. Level of salaries and other means of remuneration depend on the individual countries. They are also centrally coordinated, to ensure Stahl remains competitive in the respective markets. Some employees in the Company, mainly in management and sales, enjoy a bonus scheme based on annual measurable objectives. This bonus scheme is coordinated centrally to ensure proper alignment and consistence with local practices.

Compensation

Total compensation excluding bonus, paid in respect of 2018 was €115 million, approximately 6.83% above 2017.

Training

The nature of Stahl's business requires a focused approach to training. SHE (Safety, Health and Environment) training is the priority. Every new employee receives updated SHE training and instructions in line with their position. This is followed by more specific job-related training to ensure the best use of the information, resources, products and capabilities at their disposal. In the case of Stahl technicians, there is a strong emphasis on training designed to provide practical and innovative technical solutions for customers.

Individual training programs

Stahl has certain provisions regarding individual training programs. All employees that have worked for the Company more than four months are eligible to participate in external training programs individually or in teams. All trainings should consider what employees need and how they can learn best. This is why, Stahl encourages employees and managers to consider multiple training methods like workshops, e-learning, lectures and more.

Corporate training programs

Stahl also defined a corporate training catalogue to train its employees.

Examples of this kind of training and development are:

- compliance, anti-bribery and anti-corruption and modern slavery;

- workplace diversity and inclusion;

- security Awareness and GDPR training;

- leadership (Management Training and Masterclasses);

- induction program for new employees;

- training teams in company-related issues (e.g. new systems or policy changes);

- training employees to prepare them for promotions, transfers or new responsibilities.

Training hours: The indicator of total hours of training is tracked locally by each Stahl unit and it is consolidated at group level. The number of hours received per employee in 2018 was 22.3 hours per full-time equivalent (FTE) compared to 13.13 hours per FTE in 2017. The increase of hours per FTE is mainly caused by the launch of the e-learning programs: Anti-bribery and anti-corruption, Modern slavery, Workplace Diversity and Inclusion, GDPR training and Security Awareness training. Safety awareness campaigns are excluded.

Equality

The nature of Stahl business and the need to respect strict security and eventually emergency measures, somewhat limits the opportunities for disabled employees; there are currently 12 persons in this category, compared to 16 persons in 2017.

Diversity

In 2018, Stahl published its Diversity and Inclusion Policy on its website and is committed to embedding equality, diversity and inclusion across the organization rather than viewing it as an abstract principle. Equal treatment is at the heart of the organization and Stahl believes this will produce a more innovative and responsive organization. It also believes that there is much more to diversity than age, gender, race and cultural background. A diverse workplace includes people who can offer a range of different viewpoints and ideas.

Consistent with its strategy of growing its leadership talent, diversity and inclusion principles are also embedded within its core leadership development programs to encourage managers to demonstrate them as part of their leadership behavior. Stahl will also build cultural intelligence and equality into its performance review, hiring and talent identification processes.

In the third *quarter* Stahl launched an e-learning training focused on Workplace Diversity and Inclusion.

Human rights, modern slavery, anticorruption

Stahl's Code of Conduct ensures that human rights and the environment are respected by those parties with whom we do business. Related to this, a whistleblower policy is in place with clear rules that allow employees to report suspicious behavior that could be in conflict with the Code of Conduct, with the necessary protection guarantee for the whistleblower in question.

Late 2017, Stahl launched e-learning training programs focused on anti-bribery and anti-corruption and in 2018 on modern slavery. To complete the e-learning training, participants are required to study the material and take a test at the end. Special attention is given to awareness in these programs, and to the red flags that can indicate non-compliant behavior in the supply chain. 1,200 employees (more than 50% of the total workforce) received this training in 2018.

Human Resources in Stahl

Stahl is an organization centralized around customers and that holds customers at the core of its commercial and entrepreneurial culture. New ideas and creativity are expected, learning is promoted, product, process, and administrative innovations are championed, and continuous change is viewed as a conveyor of opportunities. While having a global reach, Stahl acts on the premise: think global, act local. Partnerships are vital to us, as Stahl believes that working side-by-side offers the best chances to produce success stories.

The Stahl HR Team applies the concept that a new job is like a new journey for an employee and considering the world around us is changing at fast pace, increasingly unpredictable, impossible to analyze systematically and beyond accurate interpretation, the main purpose in the coming years will be to offer to the employee a great experience in Stahl.

HR is responsible for ensuring that the Company has the "right person" in the "right place" at the "right time" for today and tomorrow and support Stahl in creating responsible partnerships and to be the leader in its market.

The HR strategy adopted in 2018 is based on the following points:

- further develop and establish Stahl's culture and Stahl DNA;

- transfer knowledge and information within the Company;

- hire and develop people in line with current and future business goals;

- create an open, transparent and fair management style;

- focus on engagement, diversity management and equal opportunity;

- be a truly international team.

Considering the HR strategy defined, the project's focus in 2018 has been towards:

1 Transfer knowledge and information within the Company;

2 Hire and develop people in line with current and future business goals. In addition an analysis ("Attractive and talent retention") has been run to mitigate the risk ".

1 Transfer knowledge and information within the Company

- **HR dashboard:** As part of continuous improvement, a new HR dashboard has been defined and implemented. "Management by figures" providing transparency on data is the basis for, allowing the Management Team to take proper and fast decisions;

- **Employee handbook:** The release of an employee handbook further supports the smooth transition into the new job as part of Stahl's HR strategy. Creating a harmonious, fair, employee and employer supportive workplace allows improvement of the level of engagement. The handbook introduces employees to our culture, mission and values. This helps to foster a sense of pride and belonging and ensures that key company policies are clearly and consistently communicated, demonstrating that the company strives to be compliant with these regulations every day.

2 Hire and develop people in line with current and future business goals

- **Digital recruiting:** The way Stahl recruits its people has changed. Compared to just a few years ago, candidates now have far more power during the job search. Consequently, finding and hiring ideal job candidates, especially those with in-demand skills, has become extremely hard, expensive and time-consuming. The change of paradigm and technology brings new recruiting trends. Stahl has set an inbound recruiting strategy where Stahl proactively and continually attracts candidates with the goal to make them choose Stahl as their next employer, starting in this way to build a high quality candidate database for current and future needs. This new way of recruiting and selecting employees will be further supported by the implementation of a digital recruiting tool, connected with our Company website and Human Resources Management system. The objective is to streamline, simplify and automate the hiring process, making it faster and more efficient and compliant with the new General Data Protection Regulation (GDPR).

- **Performance development system:** Stahl asks employees to focus on performance development (long-term approach) rather than appraisal, teaches "People Leaders" to "inspire and empower" their teams and help employees set real-time priorities based on customer input, and, ultimately, increases speed and collaboration. In order to achieve these targets a new performance development

system has been defined based on the Company leadership model. This model identifies key behaviors for the success of Stahl's business and the professional maturity of people and its organization and it is strictly related to the corporate values. It supports the communication of expected results and increases the awareness of what is necessary in different phases of professional growth;

- **Learning management system:** The implementation of a learning management system has started with the objective to let employees choose and manage online courses and training programs and to assign courses directly to employees whenever needed. In particular, the aims are to:

  - track learning progress and measure performance,

  - speed up the onboarding process,

  - integrate social learning experiences,

  - organize department specific compliance regulations,

  - reduce learning and development cost and time,

  - show statistics of trained people for external auditing.

- **Global mobility:** Global talent deployment is about having the right people, in the right places and roles, at the right cost and for right length of time and results. At Stahl, the demand for global mobility is increasing rapidly, either as part of a personal development plans or for knowledge sharing & training of others. To create added value to the company's business, HR has created a long-term assignment policy. With this policy, HR aims to deliver consistent results for comparable assignment solutions.

Safety, Health and Environment (SHE)

Risk assessment

Stahl carried out a detailed review of its risk assessment and control policies in 2018, as part of the requirement of the new French law, the Non-Financial Statement (NFS), with regards to environmental, social, human rights and corruption risks resulting from its activities.

As a player of the chemical industry, Stahl has identified the risk linked to the health and safety of employees & contractors, including accidents, injuries, illness, exposure to chemicals. All its activities, policies, monitoring and reporting and trainings are aimed at creating a true safety culture (which is in fact an attitude) that results in zero injuries and accidents. Risks related to occupational health and safety, including:

- chemical contact or exposure to hazardous substances for health including volatile organic compounds (VOCs);

- risk of chronic (serious) illness linked to chemical exposure including volatile organic compounds (VOCs);

- slip, trip and fall;

- fatal and serious incidents.

By implementing the principles described below, and by using the latest state-of-the-art technology and processes, the gross risks of Stahl's operations are being mitigated and the risk for its employees, the community and the environment is minimized. This chapter reports on Stahl's health and safety performance.

Safety, health and environment (SHE) policy

Stahl believes that the protection of health and safety of people and the preservation of the environment will be always considered its highest priority. This mindset (and policy) is rooted in the employee culture.

Health and safety

The key principles of the Safety and Health policy are:

- a strong safety culture involving the whole organization;

- safety, health and environment as the top priority;

- safety is more important than a short term result;

- implementing best industrial practices in addition to compliance to all legal requirements;

- knowledge as the basis of all decisions. Stahl will require that employees are trained in the skills necessary to carry out their duties and make decisions ensuring safety.

Stahl's safety policy is linked to its business activities and operations by a management system establishing the need to:

- implement safety principles through process conception, facility design, operation specification and behavior of people;

- identify and assess all hazards;

- define safety measures to prevent incidents and accidents;

- define safety measures to limit the potential consequences of incidents and accidents;

- report and investigate all incidents, take the necessary actions & share and learn from them;

- monitor safety performance with metrics and indicators;

- audit and review hazards periodically;

- be open to improvements made available in the industry;

- ensure good practices in emergency response and crisis management preparedness;

- success in safety performance shall be celebrated and rewarded;

- consider safety responsibility as a mandatory individual responsibility to be spread throughout the entire organisation;

- people must contribute to continuous improvements in safety by making suggestions that, assuming they are aligned with the SHE policy, could be implemented.

Stahl's SHE organization

All Local Managers and General Managers are responsible for implementing the safety policy and principles in areas under their control. This responsibility includes systems for the recognition of hazards, assessment of risks and provision of effective controls. For outpost sites such as application laboratories, technical service centers and warehouse operations the Local Manager or General Manager of the controlling site may delegate this responsibility to the manager at that site.

Since 2017 Stahl has a Global SHE and Process Safety manager in charge of implementing the SHE policy and R20 (Road-to-Zero) program. This position implements the fulfilment of Stahl's SHE policy, including the changes of behavior and training required to support the highest possible standards of SHE. An enhanced reporting tool will be implemented in 2019. In this sense, in 2018 a Behavioral Safety Program was defined by Stahl and applied as pilot in Parets, one of the company's production facilities in Spain. The name of the program is R20 (Road-To-Zero) and the pillars are:

- a true safety culture defines an attitude in life, inside and outside the place where you work;

- a good safety record has been never achieved by a big effort of a small group of people, but by all the small efforts of a big group of people;

- potential consequences of injuries at work are mostly affecting people and their social network outside work;

- Stahl has defined a zero tolerance policy for unsafe behavior to ensure that people do not get injured at work.

Each site has a dedicated SHE Manager who is responsible to identify and asses the needs in the field of SHE and manage the necessary actions to ensure that the organization is pursuing the best practices in this field. Being a SHE Central figure does not mean in any way being the central responsible for SHE, as said, the responsibility in this field is distributed throughout the entire organization and there is no single job position without a certain degree of responsibility the area of SHE. The SHE Manager reports to the Local Manager and has the direct support from the Global SHE&PS Manager.

Safety KPI's

The table below shows a stable rate in lost time injuries (LTI) in and the severity rate (SR).

Reporting & SHE manual

Global Safety performance and KPIs[1] are reported and monitored monthly and annually. The Company tracks progress on safety indicators and reports different categories of injuries and incidents including lost time injury (LTI), serious injury, minor injury, first aid, occupational health and fatalities. Each month it reports injuries, incidents, audits, trainings, engineering projects and other prevention methods both internally and externally. The Safety reporting procedure is recorded in the Stahl SHE manual.

Work injuries

	2018	2017	2016	2015	2014	2013
LTI/Frequency rate of accidents with lost work time*	1.22	2.01	0.80	1.60	1.50	0.80
Severity rate of accidents**	0.0317	0.1025	0.0045	0.0380	0.0555	0.0097

* LTI/Frequency rate calculation: (number of reported accidents that resulted in lost days > 1 day x 1,000,000***)/(number of theoretical worked hours). Also known as Lost Day Rate (LDR). In 2017, Stahl changed the factor to calculate LTI to the European standard. Rates are based the factor of 1,000,000 instead of the 100,000. Above table is based in the 1,000,000 factor.

** Severity rate calculation: (number of lost days x 1,000***)/(number of theoretical worked hours). The factor of 1,000 of the historical data has been restated (1,000 instead of 1,000,000 which was used in the 2017 registration document).

Environmental footprint

As part of the NFS risk assessment, environmental risks were also identified:

- hazardous waste management;
- impact on water resources;
- greenhouse gas (GHG) emissions contributing to climate change;
- increasing demand and regulation for sustainable chemical products.

Stahl is focused on contributing to a lower environmental impact at our operations and for our customers and supply chain partners. As a result, the company has implemented policies, KPIs and targeted actions to mitigate the above mentioned risks.

With regards to environmental footprint of its products, Stahl is poactively engaged (in addition to legslative requirements) in initiatives focused on the elimination of certain chemical substances from the supply chain, e.g.: Zero Discharge of Hazardous Chemicals (ZDHC) and bluesign®.

With regards to the environmental footprint of its own operations, the company is committed to global initiatives and frameworks, like The Paris Agreement (on reducing CO_2), the UN Global compact, the UN Sustainable Development Goals and the Organisation for Economic Co-operation and Development (OECD). For reporting, Stahl implements the Global Reporting Initiative (GRI) guidelines.

Stahl is continuously upgrading its production sites and laboratory facilities in order to achieve energy, waste and water efficiencies and to reduce its environmental footprint. Since 2015, it has placed a strong focus on the following environmental topics:

- CO_2 and energy;
- water;
- waste.

The CO2 and energy highlight of 2018 was the installation of solar panels at the Stahl manufacturing site in Portao, Brasil with a capacity of 840 kW. The significant investment in this solar energy will result in an important drop in CO2 emissions for the site in 2019, and it will supply approximately 50% of the electricity consumed at that facility. During 2019 the company will monitor the success of this project and make plans to introduce solar energy at its other manufacturing sites.

(1) For safety indicators all Stahl employees are considered.

Carbon Dioxide (CO2) emissions

Stahl recognizes that reductions in global CO_2 emissions will be required in order to achieve the goals outlined in the Paris Climate Accord established in 2015. Stahl has set an internal target to reduce CO_2 emissions by 10% by 2020 (using 2015 as a baseline). The company is considering new goals for 2030. Stahl's improvements in CO_2 emissions are driven by sourcing green energy at is European sites and by technology investments that lead to long term efficiencies at its manufacturing sites. In the longer term the company is investigating the generation of

renewable energy at its manufacturing sites, building on the success of the solar panels already installed at Stahl Brazil.

Stahl estimates and reports also on the scope 2 and 3 indirect emissions since 2017. Scope 2 emissions are indirect emissions from the generation of purchased energy. Scope 3 emissions are all indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions.

Below tables shows the different sources of CO_2 emissions calculated by Stahl, as per the Green House Gas (GHG) protocol.

Carbon Dioxide (CO_2) emissions

Scope 1	Scope 2	Scope 3
Fuel combustion		Purchased goods and services
Company vehicles		Business travel
Fugitive emissions		Employee commutingWaste disposalUse of sold products
		Transportation and distribution (up- and downstream)
		Investments
	Purchased electricity, heat and steam	Leased assets and franchises

In absolute terms Stahl has achieved a CO_2 reduction (in scope 2) because of its investment in renewable energy sources that have a lower carbon footprint.

	2018	2017	2016	2015
Scope 1: direct GHG emission (metric tons CO_2-EQ.)*	17.114	16.915	16.924	15.569
Scope 2: electricity indirect emission sources (metric tons CO_2-EQ.)**	7.119	8.984	18.595	17.759
Scope 3: estimation of the other indirect emission sources (CO_2-EQ. X 1 million)***	560-590	560-590	500-530	No comparable data

* Scope 1: direct GHG Emissions are those that occur from sources that are owned or operationally controlled by the company: company owned or leased cars, other company vehicles, gas and oil used on site. In 2018 new energy sources were included in the reporting (High Speed Diesel & Agri briquettes), that were also retrospectively added for 2015, 2016 and 2017.

** Scope 2: electricity Indirect Emission Sources: are those that occur due to purchased energy (in the form of electricity, steam, heat and cooling) from the grid or district heating or cooling systems. In 2018 renewable energy both purchased and self-generated, were added to the reporting tool, which explains the big drop in CO_2 in scope 2 in 2017 and 2018.

*** Scope 3: other Indirect Emission Sources are calculated since 2016 following the GreenHouse Gas protocol. In 2015 Scope 3 was based on business travel (flights and private cars).

The below table shows the improvement of Stahl's CO_2 intensity over the last two years. CO_2 intensity means CO_2 emissions measured per production volume.

CO_2 intensity

	2018	2017	2016	2015
CO_2 emission scope 1+2 (in tons)	24.232	25.898	35.519	33.328
Total production volume (in tons)	228.440	238.590	207.923	195.646
CO_2 intensity[1]	0,106	0,109	0,171	0,170

(1) CO_2 intensity: CO_2 emissions per production volume = CO_2 per tons produced = CO_2 scope 1 + scope 2/production volume.

Corporate Value Chain (Scope 3) Accounting and Reporting Standard

In 2017 Stahl made its first assessment of scope 3 emissions as per the GHG Protocol Corporate Value Chain Accounting and Reporting Standard. Th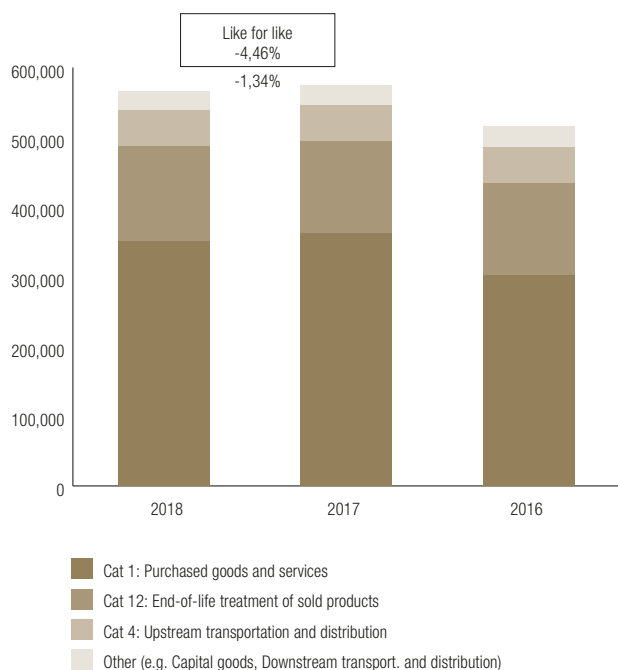is exercise is designed to understand the full value chain impact of its activities and will help to focus efforts on significant sources of GHG emissions. In 2018, it updated the material categories and the estimated CO_2 emissions.

Scope 3 emissions per category

	2018	2017	2016
Cat 1: Purchased goods and services	62%	63%	59%
Cat 12: End-of-life treatment of sold products	24%	23%	26%
Cat 4: Upstream transportation and distribution	9%	9%	10%
Other (e.g. Capital goods, Downstream transport. and distribution)	5%	5%	6%
Total as reported in CO_2-eq (x 1 million)	560-590	560-590*	500-530
CO_2 emission trend as reported	-1,34%	9,74%	
CO_2 emission like for like (excluding the impact of acquisition)	-4,46%	8,66%	

*   2017 data restated, which has an impact of +50k CO_2-eq in 2017, as a result of a onetime calculation error.

Scope 3 emissions per category

Cat 1: Purchased goods and services
Cat 12: End-of-life treatment of sold products
Cat 4: Upstream transportation and distribution
Other (e.g. Capital goods, Downstream transport. and distribution)

Results and mitigation

Purchased goods and services' (62% in 2018) and 'end-of-life treatment of sold products' (24% in 2018) remain the largest sources of indirect (scope 3) CO_2 emission. Both categories are related to the input and output of materials in the production process. Opportunities to reduce these emissions are:

■ selecting (base) chemicals with a lower CO_2-footprint;

■ increasing biogenic content of the materials that are being used[1]

■ increasing longevity of end products that could reduce lifecycle CO_2-emissions of end products.

Transportation of purchased goods is the third largest source of scope 3 emissions.

Transportation of goods (Cat. 4) accounts for around 11-12% of Stahl scope 3 emissions. Based on the assumptions in the calculation of transport emissions, the major part of these emissions is air and road transport. Reducing these emissions could be achieved by:

■ choosing a different mode of transportation. Road transport emits 10 times more CO2-emission per tkm than marine transport. Air freight emits 100 times the emissions associated with marine transport. In particular, Stahl is actively looking for ways to minimize air freight shipments in favor of marine transport;

■ stimulate transportation with cleaner vehicles (e.g. select transporters based on their sustainability achievements such as Dutch "Lean & Green" star rating);

■ reduce transporting small quantities of goods. During 2018 Stahl has consolidated its distributor network around the world, which means larger shipments to a smaller number of distributors.

Energy

Stahl's energy consumption is the sum of electricity, gas, oil, steam, renewable briquettes and high speed diesel, consumed at their manufacturing sites (see below pie chart). Energy is reported as the total energy consumed in TJ and per production volume: the energy intensity. There are many energy efficiency projects underway. In 2018, Stahl included more energy sources (briquettes, high speed diesel and the split in renewable and traditional/grey electricity). As production volume decreased slightly in 2018 (ie: like for like), the energy per tons produced was flat in 2018 *vs* 2017.

Energy consumption

	2018	**2017**	**2016**	**2015**
Energy (TJ)	380	390[1]	319	305
Share of renewable energy*	34%	34%	-	-
Total production volume	228,440	238,590	207,923	195,646
Energy intensity (TJ)**	0.00166	0.00163	0.00153	0.00156

* *European sites and Portao have renewable electricity. In Portao we have invested in solar panels. In Kanchipuram, India the major part of the energy consumption is agri briquettes (mix of peanut shells and saw dust)*
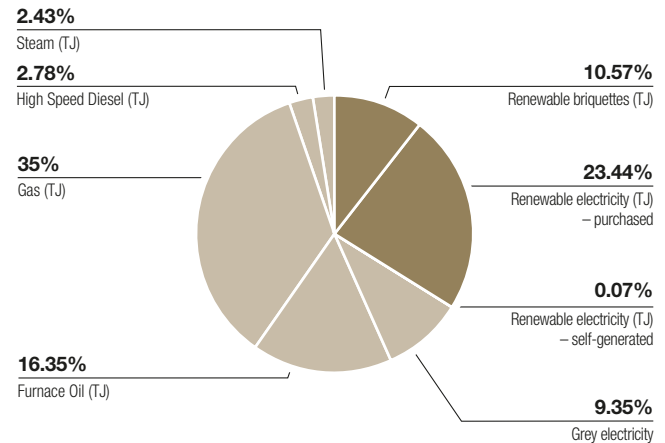** *Energy intensity is (energy consumption (TJ) per tons produced) = energy (TJ)/total production volume.*
Energy consumption is based on lower heat value (LHV).
2017 energy in tj now also includes briquettes consumption by kanchipuram. This category was added in 2018. To show the trend in 2018 compared to 2017, we added this. Stahl included it to compare the 2018 and 2017 trends.

(1) *Biogenic materials does not necessarily lead to a lower carbon footprint from a life cycle perspective, because production and processing of biogenic materials in some cases can be more (fossil) energy intensive.*

Energy sources

The below pie chart shows the energy consumption, split between the different energy sources used in 2018 on manufacturing sites (Stahl added renewable energy, agri briguettes and high speed diesel were added). Stahl did not use coal. The main source is gas (34,66%) and electricity (33,03%), which partly consists of green electricity (34%). Renewable (agri) briguettes are made from renewable waste materials (peanut shells and saw dust).

Breakdown of energy consumption by source

2.43%
Steam (TJ)

2.78%
High Speed Diesel (TJ)

35%
Gas (TJ)

16.35%
Furnace Oil (TJ)

10.57%
Renewable briquettes (TJ)

23.44%
Renewable electricity (TJ) – purchased

0.07%
Renewable electricity (TJ) – self-generated

9.35%
Grey electricity

Renewable briquettes (TJ)	10,57 %	40,14
Renewable electricity (TJ) - purchased	23,44 %	88,98
Renewable electricity (TJ) - self-generated	0,07 %	0,25
Grey electricity	9,35 %	35,49
Furnace Oil (TJ)	16,35 %	62,09
Gas (TJ)	35,00 %	132,90
High Speed Diesel (TJ)	2,78 %	10,57
Steam (TJ)	2,43 %	9,24
	100 %	**379,66**

Water

Stahl consumed less water in 2018 because production volumes were slightly lower but also because of efficiencies at the sites. Water consumed per tons produced decreased, so water efficiency improved.

Water consumption

	2018	2017	2016	2015
Water consumption (m³)	344,922	370,855	355,041	325,864
Other water use (m³)*	456,820	561,788	506,056	491,021
Total water used (m³)	801,742	932,643	861,097	811,093
Total production volume	228,440	238,590	207,923	195,646
Water intensity**	1,510	1,554	1,708	1,666

*   Other Water use = water in Palazzolo, in particular ground well water, is used for the processes but also as cooling water (for this reason we have high volumes of withdrawn water). This water (cooling water) is kept completely separated from chemical products and discharged into the river Seveso at controlled temperature.
** Mater intensity is the amount of water used per tons produced = water consumption (m³)/total production volume (excluding Other water use).

Waste

Disposal of waste is considered only as a last resort for Stahl and it has begun to regard waste more and more as a by-product, with value for other uses. It is also installing water treatment facilities at manufacturing sites which do not have such facilities. This will effectively reduce the amount of wastewater (classified as hazardous waste) sent to third parties for treatment.

	2018	2017	2016	2015
Hazardous waste (tonnes)	10,962	10,538	9,48	6,570
Non-hazardous waste (tonnes)	1,807	1,584	1,476	1,276
TOTAL WASTE (TONNES)	**12,769**	**12,122**	**11,224**	**7,846**

	2018	2017	2016	2015
Waste water send to external treatment (tonnes)*	15,620	18,124	15,038	15,815

*	This indicator only represents the Stahl sites in Waalwijk and Toluca. Waalwijk= cleaning water of tanks. Toluca=waste water that is collected from the production plant (cleaning of tanks, reactors and equipment in general) and also services (bathrooms and showers). The other 9 sites have an on-site waste water treatment installation.

Environmental provisions

As of the end of 2018, Stahl's environmental provision for land pollution are of €0.6 million.

Low-impact innovative solutions

As communicated earlier in the report, Stahl carried out a detailed review of its risk assessment and control policies in 2018, in accordance with the requirements of the Non-Financial Statement (the NFS), with regards to environmental, social, human rights and corruption risks resulting from its activities.

Stahl identified a risk linked to innovation and the ESG performance of its products: the increasing demand and regulation for sustainable chemical products. With 11 R&D centers around the world, employing over 100 technical staff, Stahl's product research is aimed at providing high performance solutions that reduce environmental impact. This can be either by using renewable/bio-based raw materials in its own products or by designing products which will reduce the CO_2, energy, water or toxicological footprint of our customers' products. It is a requirement that all new products developed by Stahl's research team must have a clear environmental benefit. The full integration, in 2018, of the BASF leather chemicals business product range has complemented this innovation drive.

■	strong sales of the STAHL EVO products for coated materials and the Stahl NEO leather chemicals portfolio were important commercial highlights in 2018. This growth is linked to the fact that these products are compliant with the Manufactured Restricted Substance List (MRSL) launched by the ZDHC Foundation (Zero-Discharge-of-Hazardous-Chemicals) in 2015, whose goal is to eliminate hazardous substances from the garment and footwear supply chains, by 2020;

■	another example of significant sales growth in 2018 was in the Proviera® - Probiotics for Leather™ product portfolio. These products contribute to the reduction in the environmental footprint of the leather process, notably with regard to water pollution, by substituting synthetically produced surfactants by natural products made from a fermentation process;

■	over 85% of Stahl's finishing and coatings-related products are currently water based. The policy of promoting natural and renewable resources as raw materials, has driven water based polyurethane research activities significantly in 2018. As a result, new bio-based polyurethane materials are being prepared for commercial launch in 2019, for promotion in the Performance Coatings, Leather Chemicals and Polymers businesses. 25% of Stahl's basic research is focused on projects specifically aimed at eliminating restricted substances from the supply chain;

■	life Cycle Analysis (LCA) emerged in 2018 as a new element of innovation for Stahl, and the company has identified products and processes where the impact on the environment can be calculated, and reported, using established methodology. Stahl believes that LCA will be an important value-added service for its customers in the supply chain in the future.

People & Society

Sustainable Development Goals

Stahl is committed to the guiding principles of UN Global Compact, the world's largest corporate sustainability initiative. With this commitment we confirm the alignment of our strategy and operations with the universal principles of human rights, labor, environment and anti-corruption.

This also means that Stahl's activities are being aligned with the 17 Sustainable Development Goals (SDG's) announced at the UN General Assembly in 2015. Stahl's activities linked to the SDG's are listed below.

- poverty: In addition to local community philanthropy, Stahl is involved in wider industrial development in emerging regions with NGOs and governments. As an example, a Public Private Partnership between Stahl, Solidaridad and PUM that was launched in 2017, in Kanpur, India, is progressing well. Although the five-year project is focused on reducing water pollution, and its success will also have an impact on securing the estimated 400.000 jobs linked to the local leather industry in Kanpur, which is threatened by forced closures due to environmental pollution;

- good health: Stahl has committed to initiatives that will eliminate restricted substances from the supply chain, like the Zero Discharge of Hazardous Chemicals foundation, of which Stahl is a member since 2016;

- education: Stahl Campus® was established to promote good practices throughout the supply chain (see the section Education & Training). Stahl also actively promotes the safe handling of chemicals and conducts seminars on this topic in emerging regions. For example, in Q4 2018 the company held Sustainability Seminars on these topics at the 4 main leather manufacturing clusters in India. In 2018 Stahl Campus® was be expanded to Kanpur, India, to support the water pollution efforts being made there;

- gender Equality: Stahl's Diversity and Inclusion policy was communicated in 2018;

- clean Water & sanitation: Water technology is a growing area for Stahl and we are working jointly with leading universities on improving water effluent quality. This includes employing a research specialist focused on specific water pollution projects. The company has introduced effluent-reducing technologies like Proviera® - Probiotics for Leather™, Stahl NEO, Stahl EVO and Catalix® as well as water-reducing technologies like Easy White Tan®. The Public Private Partnerships launched in Kanpur, India and Ethiopia are also driven by a strong desire to reduce water pollution in the markets that the company serves;

- renewable Energy and Climate Action: Stahl's goal is a 10% reduction in CO_2 emissions by 2020 (in line with the 2015 Paris Climate Agreement) and this implies the adoption of renewable energy sources and raw materials, as well as energy efficient technologies at its sites. 2018 emissions improved *vs* 2017 and the company fully expects the 2020 goal to be met. Beyond this, Stahl has begun to use solar panels at its site in Brazil as part of a longer term goal of sourcing from on-site renewable energy for its manufacturing sites;

- jobs, economic growth: The Public Private Partnership in Kanpur, India, is one example of its commitment to sustainable economic growth. The EU funded project aimed at promoting efficient technologies for the Ethiopian leather industry is another. Both projects are focused on reducing pollution which has a direct connection with securing sustainable economic development and therefore jobs for the local industries. Without such pollution control initiatives, companies in these sectors would fail and eventually be forced to close;

- reduced Inequalities: Stahl's Code of Conduct was implemented in 2015 and the Stahl Diversity and Inclusion policy was implemented 2018. E-training courses were conducted and completed by 1,200 employees during 2018 on data protection, bribery, corruption & modern slavery.

Trusted Partnerships

The company is proactively involved in many sustainability related initiatives, like the Leather Working Group (LWG), the largest voluntary group in the leather industry. The mission of the LWG is to raise the bar of environmental stewardship *via* its audit protocol for tanneries, to allow better choices to be made about sourcing leather. Audit implementation and its maintenance is the LWG's main activity and Stahl is an active member of the Executive Committee of the Leather Working Group. The Executive Committee consists of four clothing/footwear brands (currently Wolverine, Timberland, Louis Vuitton and Clarks), four leather manufacturers and one chemical company (Stahl).

Stahl is an active member of the Zero Discharge of Hazardous Chemicals (ZDHC) foundation, and became a bluesign® system partner in 2017.

Non-profit activities in emerging countries

- in 2018 Stahl launched a joint project in Ethiopia with several partners and NGOs, including Solidaridad and MVO NL, focused on pollution reduction in the tanning sector. Stahl's contribution to this project is training in cleaner technologies, *via* Stahl Campus® modules;

- Stahl's sustainability roadshows continued in 2018 and were held in 4 different cities in India. The seminars focused on housekeeping, chemicals management and clean technology for reducing water pollution in leather clusters. This years' attendance was high, with an average of 350 people for each seminar;

- a Public Private Partnership (PPP) between Stahl, Solidaridad, and PUM was launched in 2017, in Kanpur, India (see section Sustainable Development);

- UNIDO: The mission of the United Nations Industrial Development Organization (UNIDO) is to promote and accelerate inclusive and sustainable industrial development (ISID) in developing countries and economies in transition. UNIDO's e-learning courses, designed to promote good practices and responsible chemical management in leather tanneries, is fully supported by Stahl and we promote it in the areas where it is needed. Indeed Stahl's recent sustainability seminars in India were conducted in conjunction with UNIDO.

Education and training (Stahl Campus®)

Stahl is committed to filling the talent gap observed in some of the markets that we serve by actively seeking ways to educate and train university students, NGOs, brands, suppliers, distributors, customers and other stakeholders in the supply chain. Stahl Campus® is the global knowledge center established by Stahl to achieve this. Started in 2014 in Waalwijk (Netherlands) & established in León (Mexico) in 2015 and Guangzhou (China) in 2016, Stahl Campus® was extended in 2018 to Kanpur, India. The goal is to promote good practices and transparency throughout the supply chain by hosting trainees in Stahl's state-of-the-art laboratories to strengthen their knowledge *via* theoretical and practical training modules. Stahl Campus® is a key element of the company's strategy of promoting transparency throughout the supply chain.

In 2018, 780 people attended Stahl Campus® training courses around the world. Notably in 2018, a Post Graduate Certificate course was organized in Stahl Campus® Mexico - a six-week course developed in collaboration with the University of Northampton (UK), in which students receive an official PG Certificate in automotive leather finishing upon completion. We will launch the same course for a new set of students in 2019.

Vigilance plan

Stahl's vigilance plan corresponds to the French law 2017-399 (March 2017) on Duty of Care. The vigilance plan identifies and aims to prevent the risk of serious violations of human rights and fundamental freedoms as well as harm to human health, safety and the environment.

Stahl's approach to Duty of Care

Stahl carried out a review of its risk assessment and control policies within the scope of the aforementioned French laws on Duty of Care. This review covered the risks linked to our employees, suppliers and customers/external markets. Stahl has adopted governance policies covering health and safety, environment, human rights in order to mitigate such risks. These policies are included in the risk mapping section below.

Stahl plans to set up a Vigilance team that includes HR, Legal & Compliance, Purchasing, SHE, Sustainability and Business directors, who meet twice a year to monitor the effectiveness of the Vigilance plan.

1 **Risks linked to human rights and the societal impact of Stahl's activities, e.g. forced labor, freedom of association, modern slavery, discrimination, diversity and inclusion.**

Stahl recognizes that modern slavery, corruption, diversity and discrimination need to be eliminated from its industry at all levels.

Mitigating the risk:

- Stahl's Code of conduct for employees (introduced in April 2013) describes its commitment to a working environment where equal opportunity and respect are prioritized. The Stahl Employee Code of Conduct has chapters on modern slavery, conflicts of interest, business practices, data and IP protection, financial reporting and also outlines the whistleblower rules,

- the Stahl whistleblower policy allows employees to report suspicious behavior, by e-mail or phone, that could be in conflict with the Code of Conduct, with the necessary protection guarantee for the whistleblower in question,

- Stahl introduced a Code of conduct policy in 2015 for its business partners. Since 2018, it has been using a due diligence questionnaire to retrieve in-depth background information about the business partner upfront (including relations with government officials, lobbying, the role of the business partner). Additionally, it initiated the first supplier audits in 2018 as a means to mitigate the risks of non-compliance with the Code of conduct. The Code of conduct is also a standard part of all commercial agreements and contracts with third parties who do business with Stahl,

- both Codes of Conduct are discussed during the monthly Management Team and quarterly meetings with the Quarterly Executive Control Group,

- the company has implemented a separate policy on diversity and inclusion in the workplace (Stahl Group Diversity and Inclusion Policy). The policy commits to embedding equality, diversity and inclusion across the organization rather than viewing it as an abstract principle. Equal treatment is at the heart of the organization and Stahl believes that this will produce a more innovative and responsive organization. The company also believes that there is much more to diversity than age, gender, race and cultural background. A diverse workplace includes people who can offer a range of different viewpoints and ideas,

- consistent with its strategy of growing its leadership talent, Diversity and Inclusion principles have also been embedded within its core leadership development programs to encourage managers to demonstrate them as part of their leadership behavior. Stahl has also committed to build cultural intelligence and equality into its performance review, hiring and talent identification processes,

- in 2018 the company ran a series of online training courses, hosted by Thomson Reuters, to ensure that employees understand the issues of modern slavery, diversity, discrimination, equal treatment, sexual harassment etc., with regard to their own behavior and that of the company's business partners. To complete the e-learning training, participants are required to study the material and take a test at the end. Special attention is given to awareness in these programs, and to the red flags that can indicate non-compliant behavior in the supply chain. 1,200 employees (more than 50% of the total workforce) received this training in 2018.

2   Risks linked to the health and safety of employees & contractors, including accidents, injuries, illness, exposure to chemicals.

The risks in this category range from injuries to employees from slips or falls, to more significant accidents involving chemical spills, machinery operations or exposure to dangerous substances. These are well known in the (heavily regulated) chemical industry and Stahl holds itself to the highest health and safety standards in this respect.

Mitigating the Risk:

- Stahl is confident that the residual risk specific to its own activities related to safety and health is low, given the highly regulated nature of the chemical business and additional actions taken by Stahl to mitigate these risks,

- the chemical industry is governed by strict legislation, permits and licenses. External organizations, including governmental bodies, ISO and many industry initiatives, visit and audit Stahl on a regular basis,

- Stahl has a strict SHE (Safety, Health and Environment) policy that sets clear rules, guidelines and KPIs for all its manufacturing sites and work places. With regards to safety Stahl has drawn up a zero tolerance policy towards unsafe acts,

- the Stahl Code of Conduct for business partners includes a health and safety section,

- auditing of Stahl sites is continuous and reporting on safety and health, including accidents and incidents, is done monthly and annually,

- training courses are held continuously throughout the company on chemicals management and handling of flammable materials,

- the use of CE certified equipment is mandated as well as associated training,

- Stahl has identified safety and health risks at customers who use its chemicals, and this also requires action for mitigation, given the potential harm caused by our products to people working at those organizations. Indeed many of its customers work in environments which are not as highly regulated as the chemical industry. Stahl has taken action, either alone or in conjunction with other peer companies and NGOs, to train users in these cases on (1) the safe use of chemicals, (2) the correct use of personal protective equipment, and (3) communicating clear rules on exposure prevention for potentially harmful chemicals. In addition to this, Stahl itself regularly hosts seminars around the world, for example in India, Pakistan and Bangladesh, which are attended by large groups of customers, which are focused on safety, health, environmental stewardship and sustainability in general.

3   Risks linked to protection of the environment, e.g. air & water pollution, water consumption, waste management, restricted chemical substances, climate change, biodiversity, local community impact.

These risks are linked to unplanned releases to the environment of hazardous materials from Stahl sites, as well as the risks linked to the environmental stewardship practices of its partners in the supply chain, especially those who use its products in their manufacturing operations.

Mitigating the risk:

- Stahl recognizes the challenges for the planet and has aligned its policies to the 17 Sustainable Development Goals agreed by the United Nations in 2015,

- climate change: in 2015, Stahl established a 5 year target for CO_2 emissions reduction (less than 10%). The company is likely to achieve that target in 2019. CO_2 emissions are reported each month, and in the annual Stahl Sustainability Report,

- Stahl's strict SHE policy covers the risks linked to spills or releases into the environment, including a dedicated spill team who are trained regularly,

- spills, releases, incidents and environmental KPIs (CO_2, energy, water, waste) are reported and analyzed monthly,

- environmental stewardship in the supply chain: Stahl's corporate strategy is to initiate projects that promote transparency throughout the supply chain. This includes the promotion of responsible environmental practices in the industries that the company serves. As an example, Stahl is a Board member of the Leather Working Group, the largest leather industry association. The Leather Working Group has developed an audit protocol for leather tanneries around the world in order to level the playing field and create a recognized standard for environmental stewardship. Stahl also hosts annual seminars in India, Pakistan and Bangladesh, attended by large groups of customers, NGOs and industry associations, during which safety, health, housekeeping and environmental stewardship issues are presented and discussed in detail.

Reporting methodology for Stahl

Reporting scope

- unless otherwise indicated, HR data are reported for all Stahl entities worldwide;

- for safety (SHE) reporting, all Stahl employees are in scope;

- the environmental performance indicators relate to Stahl's 13 manufacturing sites.

Reporting scope – history for environmental data

Site	2018	2017	2016	2015
Calhoun	Y	Y	-	-
Graulhet	Y	Y	-	-
Hospitalet	Y	From October	-	-
Kanchipuram	Y	Y	Y	Y
Leinfelden	Y	Y	Y	Y
Palazzolo	Y	Y	Y	Y
Parets	Y	Y	Y	Y
Peabody	-	Before October	Y	Y
Portao	Y	Y	Y	Y
Ranipet	Y	Y	Y	Y
Singapore	Y	Y	Y	Y
Suzhou	Y	Y	Y	Y
Toluca	Y	Y	Y	Y
Waalwijk	Y	Y	Y	Y

Y=Yes, full year and - = not reported.

Methodological limitations and uncertainties

The reporting methods for certain CO_2 indicators may have certain limitations due to the pragmatic considerations of collecting and consolidating the relevant data.

Social indicators

Total workforce

The total workforce is the number of employees with a permanent or fixed-term contract with the Stahl Group on the last calendar day of the month. The data are reported in terms of full-time equivalents.

Safety indicators

Lost-time injury frequency rate

The lost-time injury frequency rate is the number of accidents involving the loss of one or more days of working time that occur over a 12-month period, per 1,000,000 hours worked. Accidents while commuting between home and work are not included in this indicator.

Environmental indicators

Carbon Footprint

The carbon footprint is calculated according to three scopes of emissions:

- direct GHG emissions are those that occur from sources that are owned or operationally controlled by the company—company owned or leased cars, other company vehicles, gas and oil used on its sites (Scope 1);

- indirect emission sources related to energy (in the form of electricity, steam, heat and cooling) are purchased from the grid or district (Scope 2). The source of its emission factors are:

- oil: guidelines for National Greenhouse Gas Inventories, volume 2,

- oil: guidelines for National Greenhouse Gas Inventories, volume 2,

- coal: guidelines for National Greenhouse Gas Inventories, volume 2,

- steam: emission Factors for Greenhouse Gas Inventories,

- electricity: Ecometrica (2011) electricity-specific emission factors for grid electricity;

- expected other indirect emission sources (scope 3) following the Green House Gas protocol.

The carbon footprint data is reported annually.

Approach and methodology CO2 scope 3

Stahl reports its scope 1 and 2 emissions each year. Indirect scope 3 emissions have been quantified in 2017. Stahl worked with an external consultant to calculate its scope 3 CO_2 emissions for the year 2017 and to provide the company with a model to calculate its scope emissions on a yearly basis in the future, that was used for the estimation of the emission in 2018. This report contains a summary, which is required to report on following the GHG Protocol "Corporate Value Chain (Scope 3) Accounting and Reporting Standard (Chapter 11)".

Standard

Stahl's scope 3 emissions have been quantified based on the GHG Protocol "Corporate Value Chain (Scope 3) Accounting and Reporting Standard". This standard lists 15 sources of scope 3 emissions.

Category	Methodology
Cat 1: Purchased goods and services	Emissions related to raw materials have been estimated based on top 30 raw materials purchased, Top 15 chemical groups and top 10 types of packaging used.
Cat 12: End-of-life treatment of sold products	End-of-life emissions from sold finished goods have been estimated by assuming a carbon content of 80% and the assumption that all finished goods (*i.e.* coatings on leather) will be incinerated at the end of the product lifecycle.
Cat 4: Upstream transportation and distribution	Available transport data for Waalwijk, including information about weight, destination, type of transport (internal/external, paid for by Stahl or not) and mode of transport, has been extended to include estimations for travelled distance per destination. Distances by truck have been estimated using Google Maps. Intercompany trips were adjusted for by a correction factor of 50%. Extrapolation from Waalwijk data to Global data has been done based on the amounts (kg) shipped from Waalwijk versus amounts shipped globally.

For CO_2 eq emissions from scope 1, 2 and 3, there are uncertainties due to the intrinsic uncertainties from emission factors.

Stahl reports Scope 3 emission in a range of 30 million CO_2 eq, since indirect emissions are an estimated calculation as per the GHG gas protocol.

Energy

The energy consumption includes all energy sources consumed by the 13 Stahl production sites around the world. The figures indicated do not include energy consumed by offices and laboratories that are not geographically connected to one of the production sites.

Water

The water consumption includes all water sources consumed by the 13 Stahl production sites around the world. The figures do not include water consumed by offices and laboratories that are not geographically connected to one of the 13 production sites.

The "Other water consumed" indicator is related to the Palazzolo site in Italy. There Stahl is using water in addition to the usual consumption for cooling, to help the community to maintain the low level of groundwater. Water is taken and resent to the well without any contamination, and thus does not contribute to water scarcity.

Waste

The waste indicator includes all hazardous and non-hazardous wastes generated by the 13 Stahl production sites around the world. The figures do not include waste generated by offices and laboratories that are not geographically connected to one of the production sites.

Furthermore, Stahl reports wastewater that is sent to an external treatment center. This data only relates to the sites in Waalwijk and Toluca. The other 9 Stahl production sites have their own wastewater treatment plant.

Consolidation and internal controls

The HR and SHE Departments are responsible for consolidating social and safety data based on the information provided by the industrial group.

At each industrial site, the SHE Manager reviews safety and environmental data reported before the group-level consolidation is performed.

The social data relating to the workforce are compared against the consolidated data in the group's finance database for consistency.

Would you like to read the complete registration document of 2018 from Wendel? **Click here**