



Sustainability Insights

Sustainability Insights

Content

Opening Statement

01 About HA Group

- 1.1 Our Vision
- 1.2 Our Guiding Principles
- 1.3 Our Business Model

02 Sustainability

- 2.1 Commitment to Sustainable Development
- 2.2 Sustainability Organization
- 2.3 Sustainability Strategy
- 2.4 Materiality Analysis
- 2.5 Sustainability Goals and Ambitions

03 Governance and Business Ethics

- 3.1 Internal Regulations and Voluntary Commitments
- 3.2 Human Rights
- 3.3 Corporate Governance
- 3.4 Compliance
- 3.5 Supplier Relations
- 3.6 Cybersecurity and Data Protection

04 Social Affairs

- 4.1 Working at HA Group
- 4.2 Occupational Safety and Health
- 4.3 Diversity, Equity and Inclusion
- 4.4 Social and Community Engagement
- 4.5 Responsibility within the Supply Chain

05 Climate and Environmental Protection

- 5.1 Climate Change
- 5.2 Pollution
- 5.3 Water and Marine Resources
- 5.4 Use of Resources and Circular Economy
- 5.5 Biodiversity and Ecosystems

06 Research and Innovation

07 Customer Focus and Product Quality

Contact

Dear readers,

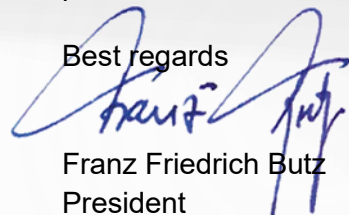
Sustainability is THE topic of the future, also at HA Group. Living and doing business today in such a way that future generations are not restricted – that is one of the most challenging tasks of our time. As a company, we firmly believe that sustainable action not only benefits our environment, but also builds the foundation for our economic success. By integrating environmental protection into the core of our business, we strive for a sustainable future and fulfill our pledge to protect our planet for future generations.

In Sustainability Insights, we give you an insight into the variety of our HA Group-wide sustainability projects, activities and achievements to date. Driven by the aspiration to contribute to the preservation of our planet for future generations, we carried out an initial calculation for our HA Group Corporate Carbon Footprint (CCF) for the base year 2019, the methodology and implementation of which we were able to optimize in the second calculation for the year 2022. As we continue our path towards strategic sustainability management, we developed our first sustainability strategy in 2022, established our global sustainability organization this year, and conducted a materiality analysis for the HA Group that meets the requirements of the Corporate Sustainability Reporting Directive (CSRD), the European directive on sustainability reporting. Now that we have identified the key sustainability topics for the HA Group, our aim is to further refine our sustainability strategy, derive specific targets and define concrete measures for action. In implementing those, we rely on our dedicated employees who are committed to a sustainable future and care about the well-being of both the people around us and the environment. We are constantly striving to develop environmentally friendly solutions, to become involved in the communities at our sites, to help our customers reduce their carbon footprints, and to reduce our own emissions. To enable our employees to develop their full potential, we aim to create a trustful work environment for them that is highly agile, diverse, and based on reliability and strong cooperation.

Dive into the numerous topics and projects that we present in the sections Governance and Business Ethics, Social Affairs, Climate and Environmental Protection, Research and Innovation, and Customer Focus and Product Quality. They are a colorful selection of our activities for more sustainability and shows the impact we can have if everyone pulls in the same direction.

We and the entire sustainability team wish that you find this document not only interesting and informative, but also convincing that the HA Group has truly centered its Sustainability Goals into its strategic path forward.

Best regards


Franz Friedrich Butz
President


Christoph Koch
President





01

About HA Group

1.1 Our Vision

1.2 Our Guiding Principles

1.3 Our Business Model

1. About HA Group

The roots of our company date back more than 100 years. Over all those decades, we have been consistently serving our customers: foundries all over the world. As a long-standing, highly successful and global family-owned Company, the HA Group has a strong international network of around 1,800 dedicated employees in more than 30 countries. It is primarily due to the successful corporate strategy over many years of achieving global growth predominantly through partnerships with already existing, mostly-family owned companies, that this diverse and multi-cultural network could emerge. We are proud of our 1,800 employees who are dedicated to providing our customers around the world with expert advice and support. Systematic expansion builds on existing business to strengthen the leading position of HA Group in the global foundry markets.

Standing still means falling behind. At HA Group, we combine tradition with innovation. We learned from our founding fathers that innovation is the decisive driving force. Therefore, we constantly continue to refine and improve our products and solutions. With such strong and stable roots, we are able to look beyond the horizon as we strive to innovate, add value for our customers and protect the environment.

Further information about the Company's origins and history is also available on our Corporate [Homepage](#).

1.1 Our Vision

Close to the customer. Global. Sustainable. We see ourselves as the HA family with a tradition going back over a hundred years. Our stable ownership structure gives us the necessary flexibility to grow the company.

Loyalty and continuity are our most important stability factors. Our employees, customers and business partners value this reliability and security.



We want to be the most innovative company in delivering superior customer value and be the preferred partner for foundries worldwide.

1.2 Our Guiding Principles

Our Guiding Principles are based on the business principles set out in our Code of Conduct and define the value basis for all our conduct vis-à-vis employees, customers and suppliers as well as all other business partners and stakeholders. In addition, being a family business, tradition is firmly anchored in them. Our culture is characterized by stability, flat hierarchies, also in the sense of short communication channels and fast decision-making, and open communication.

We see ourselves as the HA family with a tradition going back over a hundred years. Our stable ownership structure gives us the necessary flexibility to grow the company. Loyalty and continuity are our most important stability factors. Our employees, customers and business partners value this reliability and security.

Three strong pillars, (1) Market Success, (2) Leadership & Collaboration and (3) Technology Leadership complete our Guiding Principles and create the basis for our Company's vision.

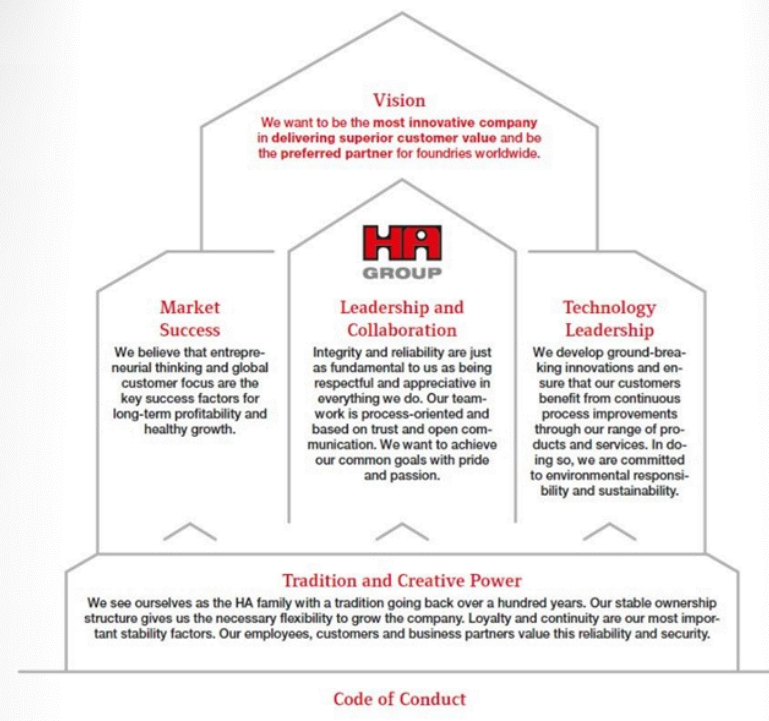
Our goals are:

- to be a technology leader and develop environmentally compatible solutions
- to provide first-class service and problem-solving competence
- to manage our company and resources sustainably

- to act responsibly towards our employees, customers, all other stakeholders, society and environment

In particular, the strongly and rapidly developing topic of environmental social governance (ESG) and thus sustainability, i.e. the inclusion and evaluation of ecological and social aspects in corporate decisions, will be placed even more strongly at the center of our corporate activities within the HA Group as part of the current development of a global ESG Strategy 2030.

Since its foundation, HA Group has become more international in many senses. Mergers & acquisitions, new business developments, increased regional and cultural diversity as well as rapid changes in the general business environment have challenged and will continue to challenge the group's ability to adjust to new market needs. In the face of such changes, our core principles and values continue to provide guidance and orientation. It is our expectation that all employees will make these principles a part of their daily working conduct and behavior. In doing so they set an example and spread the spirit that makes our company unique.



1.3 Our Business Model

Tradition. Founded in 1905 (Albertuswerke) and 1909 (Hüttenes & Gerling) and merged on January 1, 1970, we can look back on over 100 years of company history. At the end of the reporting year 2022, around 1,800 employees were working for our company worldwide and are dedicated to providing our customers around the world with expert advice and support. Systematic expansion builds on existing business to strengthen the leading position of HA Group in the global foundry markets.

Innovation. Standing still means falling behind. At HA, we combine tradition with innovation. We learned from our founding fathers that innovation is the decisive driving force. Therefore, we constantly continue to refine and improve our products and solutions. With such strong and stable roots, we are able to look beyond the horizon as we strive to innovate, add value for our customers and protect the environment.

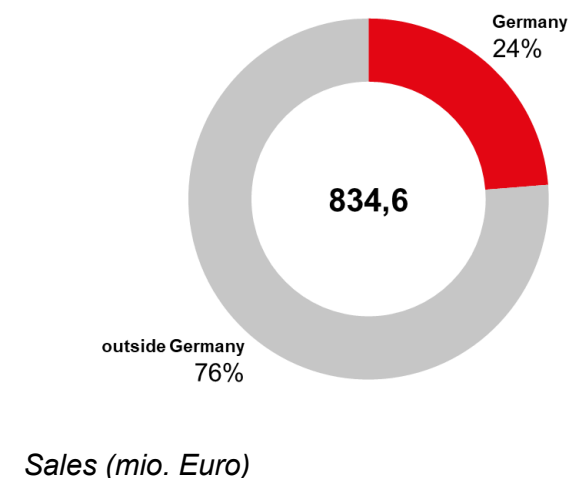
The company achieved two significant milestones in late 2017 with the inauguration of two innovation hubs, the HA Center of Competence (CoC) and a new laboratory in the Hanover region. Hüttenes-Albertus aspires to be the world's most innovative foundry chemistry company and fully recognizes the importance of innovation as one of the key factors for maintaining a competitive advantage.

Management, control and monitoring. Hüttenes-Albertus Chemische Werke GmbH is operationally active and at the same time the parent company of the HA Group. As such, it is responsible for defining and pursuing HA's corporate objectives. It is also responsible for the management, control and monitoring of HA group-wide activities, including risk management and the allocation of resources.

Hüttenes-Albertus Chemische Werke GmbH performs its tasks within the legal scope afforded to it as part of the HA Group, with the affiliated companies otherwise operating as legally independent entities.

Operational management and control are the responsibility of our HA Group Presidents. They are supported by the Executive Leadership Team, which covers all central functions.

Global production. HA Group has a presence in more than 30 countries, and around 76% of sales are generated outside Germany. We have production facilities at 21 locations in 13 countries on 3 continents and are therefore close to our markets and customers.





02

Sustainability

2.1 Commitment to Sustainable Development

2.2 Sustainability Organization

2.3 Sustainability Strategy

2.4 Materiality Analysis

2.5 Sustainability Goals and Ambitions

2. Sustainability at HA Group

2.1 Commitment to Sustainable Development

We want to leave an impression - not a footprint. Living and operating today in a way that does not restrict future generations - that is the greatest task of our time. As a company, we firmly believe that sustainable action not only benefits our environment, but also makes long-term economic sense. By integrating sustainability into the core of our business, we strive for a sustainable future and do our part to protect our planet for future generations.

Step by step to more sustainability. Sustainability is not a sprint, but a marathon and the first intensive stretch is behind us. Here you will find an overview of the kilometers we have already covered.

Our sustainability results are assessed regularly by the international, independent sustainability rating agency EcoVadis, which is recognized as a globally accepted standard for holistically assessing the sustainability performance of companies in the categories of Environment, Labor Practices, Fair Business Practices and Sustainable Procurement.

For the second year in a row, we achieved a silver ranking and are thereby ranked among the top 16 % of companies evaluated by EcoVadis in the corresponding industry risk profile.



Subscriber to the UN Global Compact

As a signatory of the UN Global Compact, HA Group is committed to the 10 Principles of the UN Global Compact and the 17 Sustainable Development Goals (SDGs), for sustainable development.



2.2 Sustainability Organization

All strategic sustainability activities are overseen by our **HA Group Presidents**. The **Global Sustainability Steering Committee** is the central steering committee for the development of sustainability at HA Group, and makes decisions regarding key sustainability matters. It motivates and supports the consideration of sustainability aspects when making business decisions.

The Steering Committee adopts relevant sustainability measures and initiatives or submits recommendations for action to the HA Group Presidents. In addition, sustainability topics are regularly reported to the HA Group supervisory board.

The **Global Sustainability Coordination Team** submits recommendations to the Steering Committee for specific areas of action and further development of the sustainability strategy.

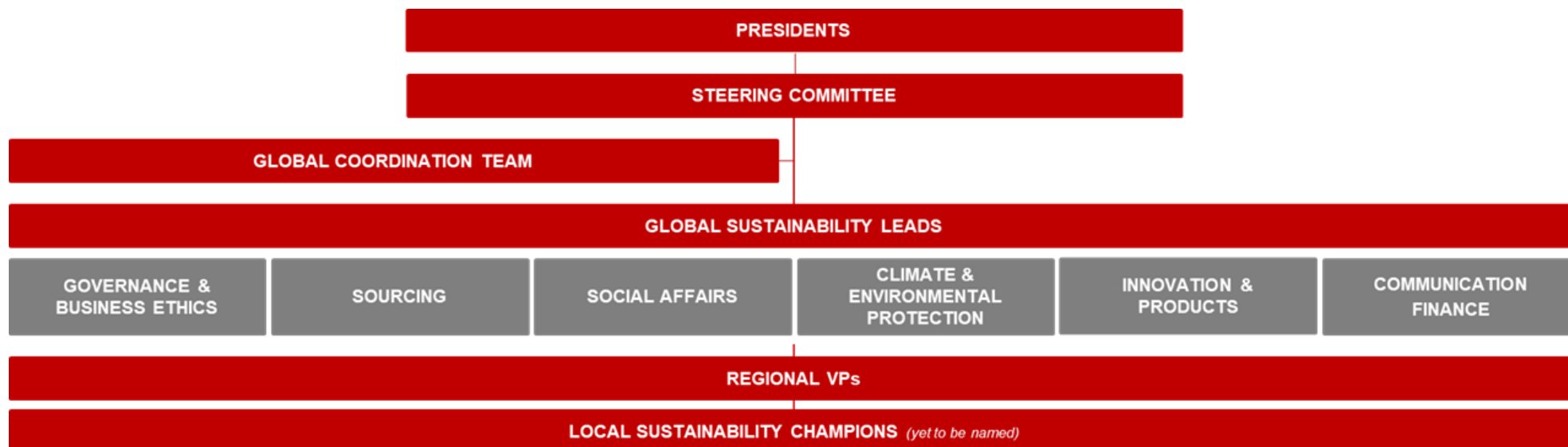
It is responsible for the operational implementation of global sustainability activities, provides guidance to the **Global Sustainability Leads** and supports them in implementing the overall sustainability requirements in the respective sustainability pillars.

Regional and local coordination and implementation takes place via our **Regional Vice Presidents** and **Local Sustainability Champions**. The latter have yet to be named.

2.3 Sustainability Strategy

On corporate level a sustainability strategy has been developed in 2022 within the general strategy review defining the current HA Group Strategy 2030+. The sustainability strategy was developed with a holistic approach addressing the three pillars of sustainability: Environmental, Social and Economic.

“HA is the most sustainable supplier of chemicals and solutions for our customers”



With this general vision of sustainability at HA Group we are stating a clear aim to achieve and maintain the leadership position of sustainability matters within our industry. The general vision is underpinned with key ambitions for each of the sustainability pillars.

These are:

- Environmental: “Climate neutrality by 2045 and sustainable use of resources”
- Economic: “Sustainable and resilient Business Model aligned with Sustainable Development Goals”

ness Model aligned with Sustainable Development Goals”

- Social: “Socially responsible mindset and decent workplaces”

The present sustainability strategy marks the basis to integrate sustainability into the HA Groups corporate strategy and operations. The sustainability strategy will continuously be reworked to evolve the target framework with appropriate qualitative and quantitative targets within all three pillars of sustainability.

The results of the recently carried out materiality analysis are key to further develop and substantiate our sustainability strategy and management defining a reliable basis of material topics for HA Group. In addition, an analysis to pinpoint HA Group’s possible support for the Sustainable Development Goals will be performed. Building on this, a clearly defined roadmap and appropriate measures will be derived to enable the successful realisation of our ambitious goals.



2.4 Materiality Analysis

A materiality analysis is an important part of a sound sustainability management and the basis to be able to identify and assess key sustainability topics. This analysis was completed for the HA Group according to the double materiality principle requested by the Corporate Sustainability Reporting Directive (CSRD) in the second half of 2023 with the support of an external consultancy. By doing so not only impacts, risks and opportunities regarding sustainability topics were identified but also a first step was taken towards complying with sustainability reporting requirements set out by the CSRD. In the process all 14 topics according to the European Sustainability Reporting Standards (ESRS) and two HA-specific topics were considered. In total six topics were identified as material for the HA Group, covering all ESG dimensions as well as HA-specific topics:

- Climate change
- Research and innovation
- Working conditions
- Occupational safety and health
- Corporate culture and values
- Customer focus and product quality

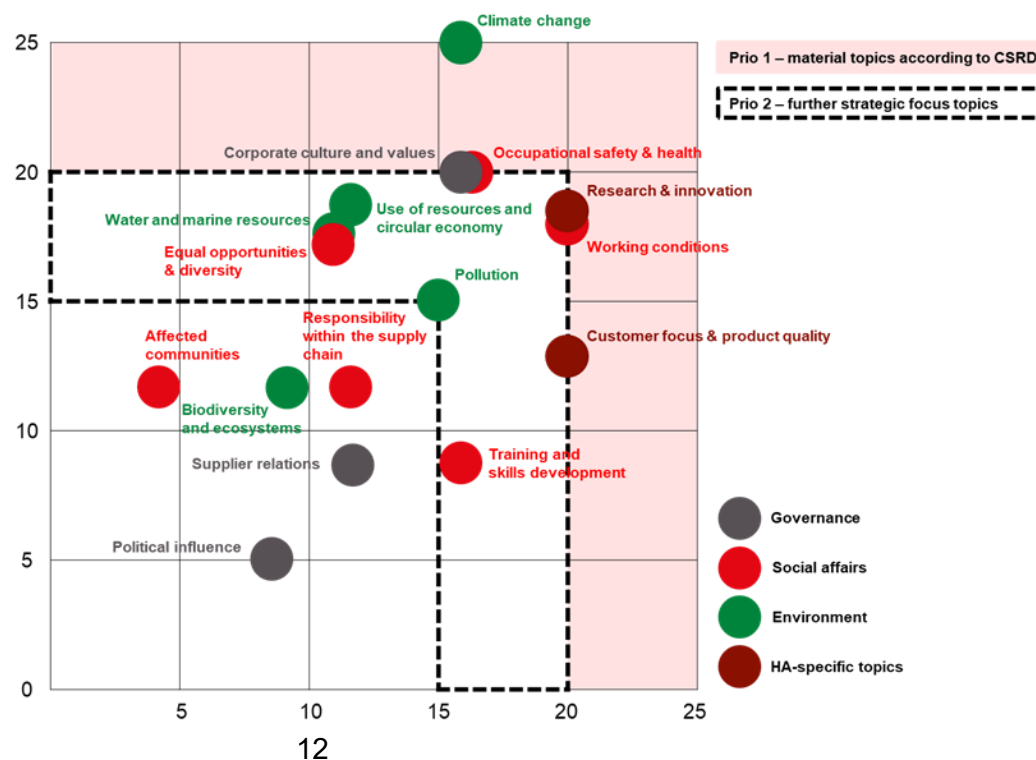
As mentioned above, the double materiality analysis fulfills the requirements of the CSRD and the assessment matrix and process documentation can be submitted to our auditors as auditable documents.

In addition to the six material topics in accordance with the CSRD-compliant double materiality analysis, the following topics were also identified that are in the extended strategic focus but not subject to formal reporting requirements:

- Use of resources and circular economy (Environment)
- Pollution (Environment)
- Water and marine resources (Environment)
- Equal opportunities and diversity (Social)
- Training and skills development (Social)

2.5 Sustainability Goals and Ambitions

Now that the CSRD-compliant double materiality analysis has been completed, the next step will be to define specific sustainability targets for each focus topic for the HA Group and derive concrete measures for action. Initial ambitions have already been formulated for the three pillars of sustainability and are listed in the following chapters.



Materiality Matrix



03

Governance and Business Ethics

- 3.1 Internal Regulations and Voluntary Commitments
- 3.2 Human Rights
- 3.3 Corporate Governance
- 3.4 Compliance
- 3.5 Supplier Relations
- 3.6 Cybersecurity and Data Protection

3. Governance and Business Ethics

We are convinced that reliable and ethical management of the company is the basis for long-term business success, fair competition, and acceptance by communities and society. The primary goal of our governance and compliance management is therefore not only to identify and remedy violations, but to prevent them from occurring at all.

Material Topics

Based on the materiality analysis done according to CSRD, the following topics are material to HA Group:

- Corporate culture and business conduct policies including prevention and detection of corruption and bribery

Our Key Ambitions

In **governance**, we strive to apply state-of-the-art systems and processes for effective and responsible business conduct:

- ESG-secured supply chain based on supplier commitment to the code of conduct for suppliers
- Focus on human rights within the supply chain: climate protection, occupational safety, and responsible sourcing of raw materials

In **business ethics**, we strive to foster a culture of trust, adhere to ethical standards, and handle data with care:

- Zero-tolerance approach to breaches of applicable laws and our own internal guidelines
- Further development of our global compliance management system
- Further development of cybersecurity and data protection

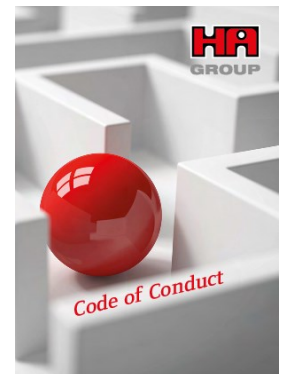
3.1 Internal Regulations and Voluntary Commitments

As well as complying with the law and respecting human rights, the principles of business ethics involve respecting internal regulations and binding voluntary commitments. We strive to prevent compliance violations within HA Group as well as breaches of human rights by HA Group and in our supply chain. We therefore see fulfilling statutory regulations, for example, on fair competition and on fighting corruption and money laundering, as a minimum requirement.

We are also committed to observing internationally recognized standards and our own more far-reaching guidelines and principles of conduct. The starting point for responsible corporate manage

ment at HA Group is our **code of conduct**, together with our **global employee handbook** (global social policy), our **CSR policy**, our **global policy on occupational safety and health**, our **global policy on environment**, our **sustainable sourcing policy**, our **code of conduct for suppliers**, our **export control procedure manual**, our **anti-trust compliance manual** as well as rules on preventing corruption, which includes third-party due diligence requirements set out in our **use of agents and distributors memo**.

Our code of conduct sets out HA Group's most important principles and standards, which all employees must be aware of. It is valid throughout the entire HA Group and is an integral part of the employment contract between each individual employee and HA Group. HA Group has defined responsibility for the topics included in the code of conduct, along with key contacts. Violation of the code of conduct can damage HA Group's reputation and result in substantial financial loss. In view of this, violations can have far-reaching consequences for the employee involved. We do not tolerate violations of our code of conduct. HA Group has issued a special code of conduct for suppliers, which sets out binding requirements.



Our global employee handbook (global social policy) sets out rules for social responsibility and business ethics in our relationship with our employees and their dealings with one another.

As a member of the **UN Global Compact**, the world's largest CSR initiative, we have given an

WE SUPPORT



undertaking that, within our sphere of influence, we will actively respect and promote labor rights and human rights, avoid discrimination, protect people and the environment, and fight against corruption. In addition, we want to make a contribution

to achieving the United Nations 17 Sustainable Development Goals (SDGs).

As a signatory to the chemical industry's **Responsible Care®** Global Charter, we have an obligation to continuously improve our performance in health protection, environmental protection, product stewardship, safety, and engagement with our stakeholders.



RESPONSIBLE CARE®
OUR COMMITMENT TO SUSTAINABILITY

Our occupational safety and health, environment, quality,

and energy positions are predicated on the protection of people and the environment. By subscribing to the VCI guidelines for Responsible Care®, HA Group is actively committed to the principles of this initiative.

HA Group is involved in many national and international competency networks such as **Chemie³**, the sustainability initiative of the German chemical industry. Under the umbrella of the German Chemie³ initiative, the German Chemical Employers' Association (BAVC), the chemical union IGBCE and the German Chemical Industry Association (VCI) have been working since 2013 to establish sustainability as a guiding principle in the chemical and pharmaceutical industry. Sustainability is understood as a triad of economy, ecology and social issues.

HA supports this initiative through its memberships in the employers' association and the VCI.

In view of our sustainability reporting obligations from 2026 (for fiscal year 2025) we will continue to develop our sustainability reporting in line with the Corporate Sustainability Reporting Directive (**CSRD**) and according to the European Sustainability Reporting Standards (**ESRS**).

INTERNAL REGULATIONS AND VOLUNTARY COMMITMENTS

Code of Conduct	UN Global Compact
Global Employee Handbook	Chemie³
CSR Policy	Responsible Care®
Global Occupational Safety & Health Policy	Together for Sustainability
Global Environmental Policy	
Sustainable Sourcing Policy	
Code of Conduct for Suppliers	
Export Control Procedure Manual	
Antitrust Compliance Manual	
Use of Agents and Distributors Memo	

Internal regulations and voluntary commitments

3.2 Human Rights

As a global company, we are well aware of our responsibility to society. We are unreservedly committed to safeguarding and respecting human rights in every stage of the value chain. We understand this to be a key element of acting with integrity and responsible corporate governance. Our holistic approach to respecting human rights is not limited to our own business locations: We also consider our supply chain and the business activities of our customers. Our goal and aspiration is to identify any human rights violations occurring anywhere in our value chain as early as possible and to mitigate identified risks responsibly.

To date, HA Group has established a solid basis to support compliance with human rights obligations: **Policy statements** and **standards** on human rights are included in the code of conduct, the global employee handbook (global social policy), the sustainable sourcing policy, the code of conduct for suppliers well as the general terms and conditions of purchase. Our **whistleblower hotline** enables employees to report infringements anonymously. The hotline is also available to third parties.

Our aim is to further expand prevention and awareness-raising measures as well as the reporting system.

3.3 Corporate Governance

As a chemicals company with a presence throughout the world, good corporate governance with a long-term focus is essential for HA Group. The HA Group Presidents, the Executive Leadership Team and the Supervisory Board are explicitly committed to responsible corporate governance. We see respecting and applying the principles of corporate governance as important management tasks.

The **HA Group Presidents** and the **Executive Leadership Team** are responsible for running the company in the company's interests, taking into account the interests of the shareholders, employees, and other stakeholders. It discusses sustainability at its meetings several times a year, especially aspects relating to the environment, safety, and portfolio transformation.

The **Supervisory Board** advises and supervises the HA Group Presidents and the Executive Leadership Team. It appoints the HA Group Presidents and also decides on their remuneration. The Supervisory Board examines HA GmbH's annual financial statements and the consolidated financial statements for the HA Group.

The HA Group Presidents are required to obtain the approval of the Supervisory Board on decisions of fundamental importance, which are defined in the **HA Group Global Authorization Framework**.

The HA Group Presidents provide regular, timely, and extensive information for the Supervisory Board on all matters of relevance for the company. Major sustainability aspects are included in context.



3.4 Compliance

HA Group is strongly committed to corporate governance and corporate compliance on both a local and global level. Responsible management processes, compliance with many different legal requirements and cultural sensitivity are cornerstones to being successful in our international markets.

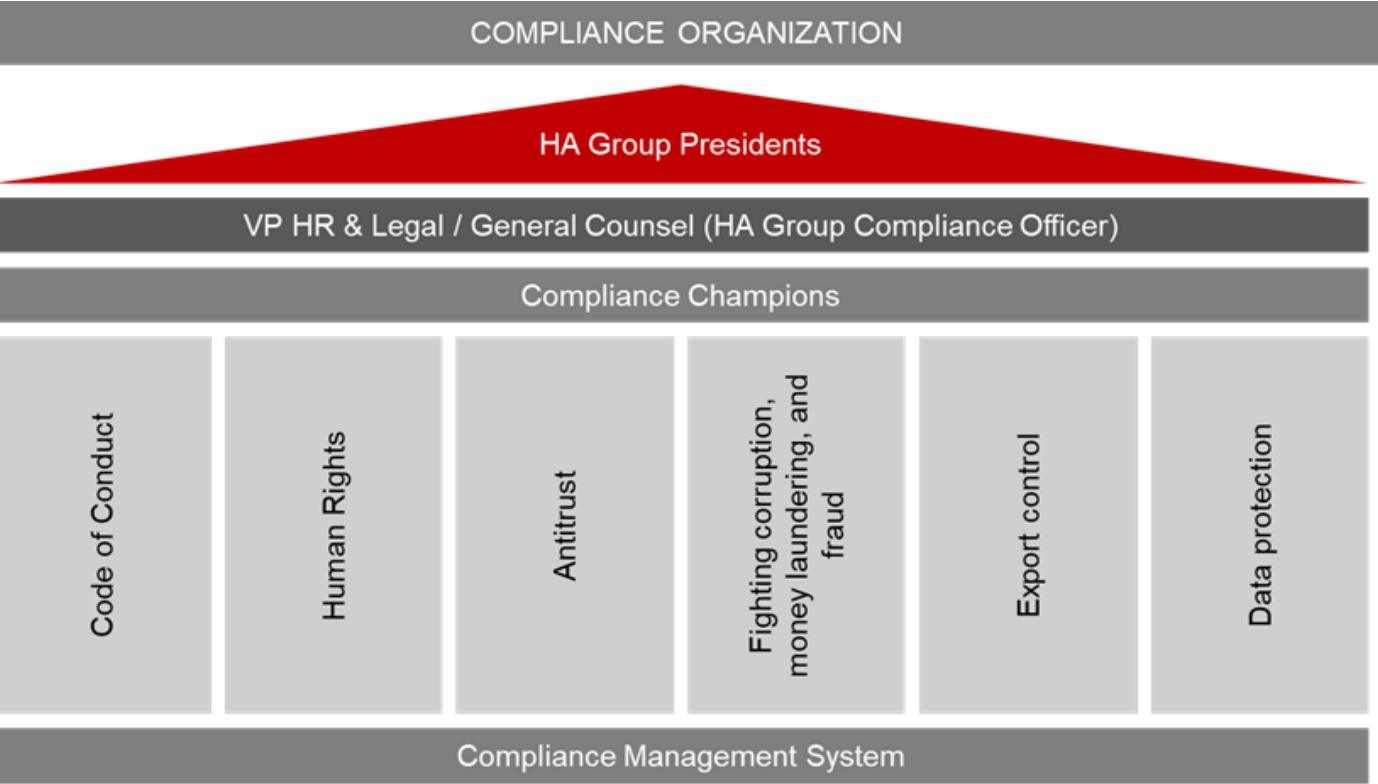
3.4.1 Compliance Organization

Our Compliance organization has global responsibility for all preventive and reactive measures. It is supported by integrated management systems and an organizational structure with clearly defined responsibilities. The Vice President HR & Legal / General Counsel is responsible for compliance at HA Group and directly reports to the HA Group Presidents. He is supported by the locally appointed **compliance champions** all over the world.

Our external **data protection manager** is also part of our compliance organization. Together, this organization coordinates the flow of information and helps our employees to implement our requirements locally – for example, through specially adapted **training courses**.

The Vice President HR & Legal / General Counsel reports any infringements, as well as the measures taken to deal with them, to the HA Group Presidents and the Supervisory Board on a regular basis. In 2023, our first comprehensive **compliance report** was published.

Our internal reporting and complaints channels are supported by a **whistleblower hotline**, which was set up to enable employees to report infringements of our code of conduct, internal standards, or applicable law anonymously. The hotline and alternative reporting channels are available to employees and third parties.



Compliance Organization

3.4.2 Compliance Management System

HA Group's compliance management system is based on the values and targets adopted by the HA Group Presidents and strives to keep pace with rapidly changing regulatory environments and customer requirements. Its main aim is to avoid, or at least minimize, compliance violations and the

associated risks. Compliance violations should be identified and sanctions imposed, depending on their severity. The Vice President HR & Legal / General Counsel works to make sure the compliance management system is appropriate and effective for the respective compliance issues.

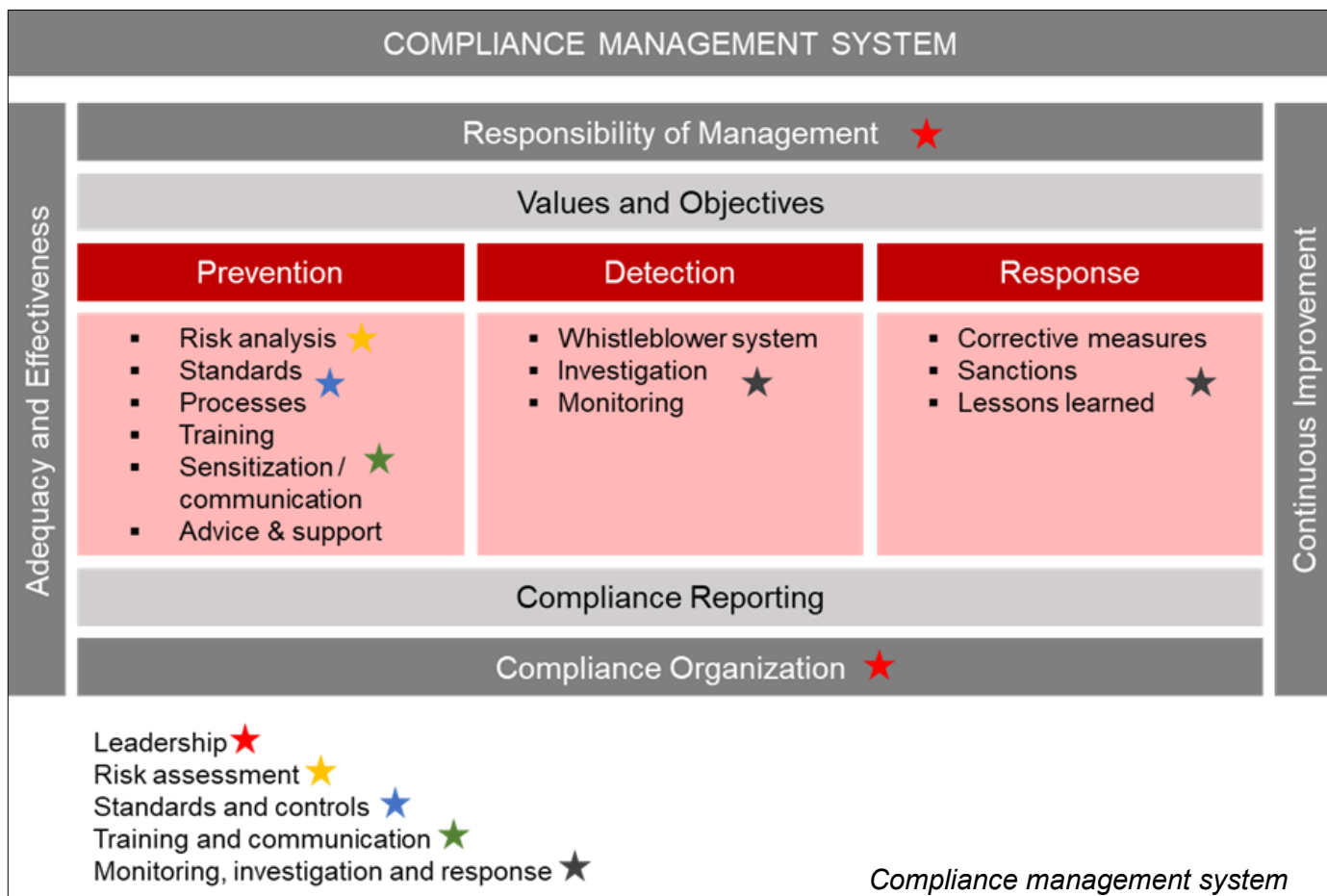
A successful compliance management system consists of three steps - prevention, detection, and response - in which the following five essential elements should be included: (1) leadership, (2) risk assessment, (3) standards and controls, (4) training and communication, and (5) monitoring, investigation and response.

(1) Prevention. Tools used to avoid potential compliance risks include risk analysis, training, raising awareness, and providing advice. We examine all sites with a view to compliance topics such as corruption, money laundering, and fraud risks.

Risk analysis. To identify potential risks as early as possible, every HA Group company is required to perform regular risk analyses on the basis of a standardized **HA Group risk matrix**.

For instance, HA GmbH has conducted a detailed risk analysis in 2021 covering the following aspects:

- Anti-Corruption-Rules
- Prevention of asset misappropriation
- Export Control / Customs
- Occupational safety and health
- Employment law
- Product safety and product liability law
- Treasury / anti-money laundering
- Law of logistics and transport



- Competition & antitrust law
- Integrity of financial reporting
- Data protection law
- Protection of trade secrets / communication in business dealings
- Sustainability & CSR
- Quality assurance

The above-mentioned risk analysis shall be updated in 2024. Other HA Group companies have done similar exercises with details adapted to local needs and legal requirements.

Taking the mitigating measures into account, these risk analyses did not identify any significant compliance risks.

Compliance confirmations. In addition, since 2017, all managing directors of majority-owned HA Group companies have been required to sign annual compliance confirmations, thereby confirming that the respective HA Group company complied with the code of conduct and the global authority framework, conducted appropriate training and implemented internal control measures to ensure compliance with the requirements contained in these regulations. The signed confirmations are managed and filed by the HA Group Legal and Compliance department.

In 2022, all HA Group companies have submitted the compliance confirmations and confirmed their compliance with the aforementioned requirements.

No special incidents were reported.

Training and communication. Since we operate on a global scale, our employees find themselves working within a variety of legal systems and value systems. Our employees might work in countries where, according to surveys by organizations such as Transparency International, there is a greater risk of encountering corrupt practices. The same expectations apply to all employees at all locations without exception: HA Group strictly opposes the infringement of laws and standards, and rejects all dishonest business practices. To impart clear rules of conduct to our employees, and especially to avoid any conflicts of interest in everyday working situations, we focus on regular training courses and communication measures.

Basic compliance trainings for all employees are tailored to local markets and conducted by our local compliance champions in local language. We aim to train 100% of the employees in each country organization. In order to qualify our compliance champions for their role as trainers, they received extensive **train-the-trainer** sessions.

Our managers play a key role with regard to compliance. Given their position within the company, they bear a special responsibility to set an example for their staff. For this reason, all of our managers as well as other identified key personnel, who are

particularly exposed to compliance-relevant tasks, such as sales and procurement staff and all employees with the authority to legally bind the company and/or set prices for the sale or purchase of products across the globe must participate in our mandatory **advanced compliance trainings**. The training program addresses many different compliance topics, such as basics about compliance management programs, anti-corruption, competition law and anti-trust, export control and sanctions. We aim to train at least 95% of the identified target group every 3 years with our advanced compliance training.

We attach particular importance to our employees actively seeking advice at an early stage if they have any doubts. For this purpose, supervisors, our experts in the legal department, and the company's compliance champions are available at all times.

Compliance trainings and participation rates 2022	
Train-the-trainer (for compliance champions)	100%
Basic compliance training (for all employees)	97%
Advanced compliance training (for managers and identified key personnel)	92%

Our annual **compliance report** (published for the first time in 2023) provides information on the compliance organization and issues specific to the compliance management system. It is prepared primarily for the HA Group Presidents. Furthermore, the HA Group Presidents are informed of

relevant risks and developments - insofar as is deemed necessary in individual cases - both during the year and on an ad-hoc basis in urgent cases. This applies to all material risks and violations of regulations that are of overriding significance for the HA Group.

(2) Detection. All employees are expected to report possible or actual violations of the code of conduct to the responsible department or compliance champion without delay, regardless of whether they relate to them personally or to their colleagues.

Internal reporting channels and whistleblower system. In addition to internal reporting channels - in writing by email or letter, by phone, or orally to the responsible compliance champion - an electronic whistleblower system operated by an independent external provider is available group-wide for the detection of possible compliance violations. Both HA Group employees and external stakeholders such as business partners and their employees, local residents near our sites, and employees' families can report suspected compliance violations via the whistleblower hotline. Reports are possible on all key compliance issues and are automatically forwarded to the HA Group Legal & Compliance department. The content of the report is processed exclusively by HA Group. HA Group takes up all allegations and investigates them internally. Whistleblowers may not be placed at a disadvantage, provided that the reports are not de-

Compliance incidents 2022

Reports via whistleblower hotline (anonymous reporting tool)	0
Internal reports via other channels	2
External reports via other channels	2

liberately incorrect or grossly negligent.

All cases were thoroughly investigated and - to the extend allegations could be corroborated - concluded with appropriate disciplinary action including in two cases termination of employment.

(3) Response. We initiate suitable measures to end violation and minimize risk. Depending on the severity of a case, the measures taken with regard to employees range from warnings or reprimands to termination of employment and claims for compensation. In addition, further action is taken to raise awareness, for example, through training. Possible sanctions against business partners are termination of the business relationship and blacklisting.

Zero tolerance for violations of regulations. Improper conduct is never in HA Group's interest. The HA Group Presidents and senior management at HA Group all subscribe to this fundamental principle. Improper conduct undermines fair competi-

tion and damages our trustworthiness and reputation. Our employees attach great importance to a correct and ethically impeccable business environment. We react forcefully to violations of laws, codes and standards. Where necessary, we initiate appropriate disciplinary measures.

No cases of corruption were discovered within the HA Group in the reporting year.

Pending legal proceedings. In 2022, there were no compliance-related pending legal proceedings, in particular:

Proceedings due to an alleged violation of anti-corruption rules	0
Proceedings due to an alleged violation of data protection laws	0
Proceedings due to an alleged violation of competition or antitrust laws	0
Proceedings due to an alleged violation of sanctions and export control laws	0

Political contributions. At present, HA Group does not support political parties or individual (political) recipients, directly or indirectly, either through financial or in-kind donations.

3.5 Supplier Relations

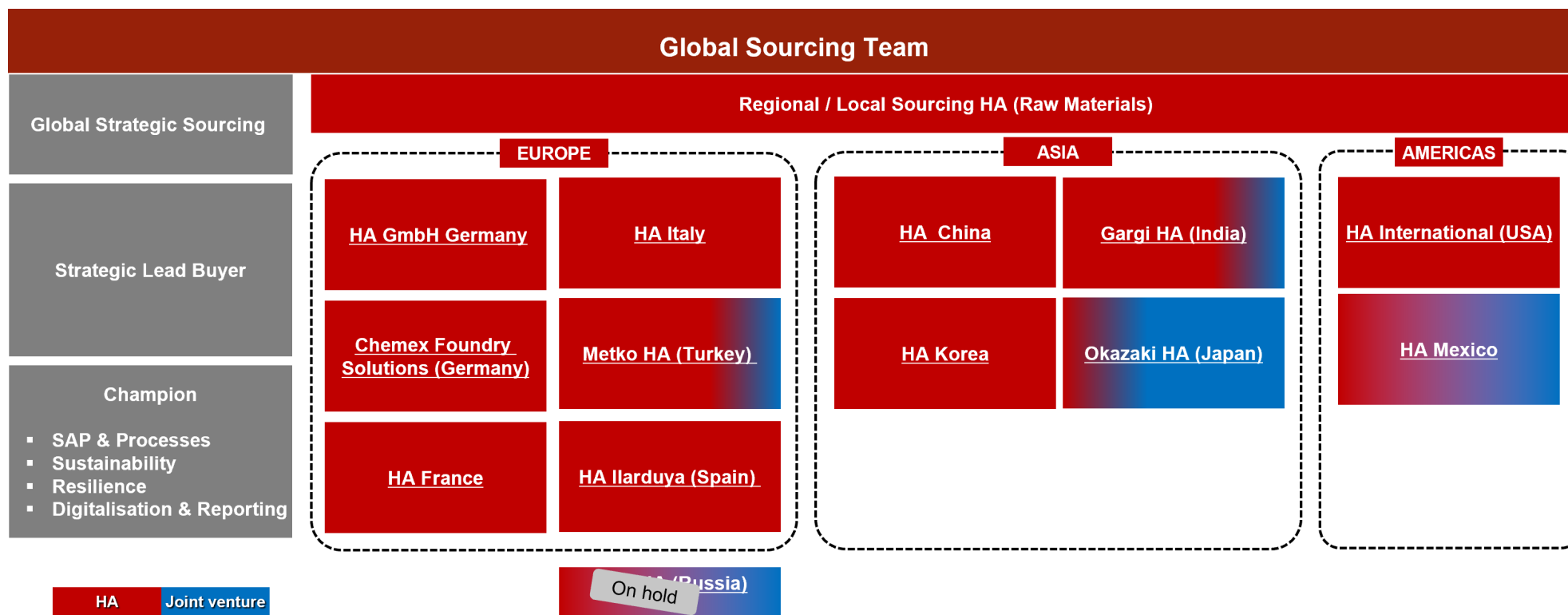
HA Group has significant influence on the environment and society through its procurement practices. By working closely with our suppliers, we want to help prevent breaches of human rights and environmental violations. We strive to counter a lack of transparency and inadequate traceability in the supply chain.

3.5.1 Procurement Organization

Structured in a matrix organization. On a central level there is a team of strategic lead buyers. Those are responsible for the most important materials in the group. Their role is to safeguard the supply for HA Group in a reasonable balance of low cost and high service. Also on a central level there are four champion-topics. Those are the global strategic topics such as sustainability, resilience, SAP & processes and digitalization. Operational/tactical purchasing of raw materials and

technical goods is handled by the local sourcing team located in the HA affiliates. In our global sourcing strategy 2030+, sustainability is beside resilience, one of the most important topics and part of our risk management.

When evaluating and selecting our suppliers, we want to consider not only economic but also social and ecological criteria. We create trust among all parties involved through transparency of our business practices.



3.5.2 Commitments and Policies

Our requirements for suppliers apply consistently worldwide. We expect them to ensure that their business activities meet our requirements for sustainable business practices. When selecting suppliers and working with them, we take into account their performance in terms of safety, health, the environment, social standards and fair business practices.

This is based on our [HA Group-wide guidelines](#) on sustainable procurement. Our **Sustainable Sourcing Policy** was introduced across the HA Group in December 2021 and was extensively communicated and explained within the global procurement community (see also section 5.5 - Responsibility in the value chain). The last update took place in February 2022.

In addition, our **Supplier Code of Conduct (SCC)** is binding for all HA Group suppliers worldwide. It also contains information on our whistleblower hotline, which can be used by employees, suppliers and all other business partners who believe they have knowledge of a violation of applicable law. The last update of our SCC was published on our website in November 2023.

In addition to our sustainable sourcing policy and the SCC, the operational purchasing of each individual order is based on our **general terms and conditions** and the **supply contracts**. Both address the topic of sustainability and contain social,

ecological and economic aspects, which emphasized the importance of driving the change towards a more sustainable HA Group.

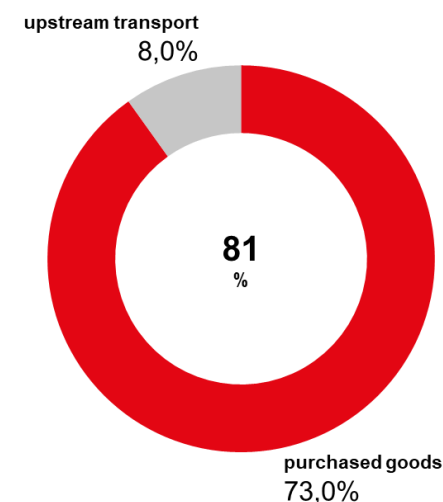
3.5.3 Scope 3 Emissions

Next to commitments and policies, it is a key to also look at the environment and the emissions caused in the supply chain. In terms of CO2 emissions caused in the supply chain, HA Group calculated their scope 3 emissions based on 2019 and based on 2022 data. Relevant scope 3 emissions are:

- Scope 3.1 Purchased good and Services and
- Scope 3.4 Upstream transportation and Distribution

As distribution to the customer of scope 3.4 is part of logistics. Procurement is responsible for the emissions caused by purchased goods and the related transport to our production plants/warehouses.

In the reporting year 2022 **95%** of our emissions were caused in **scope 3**. The two types of emissions procurement is looking at are **73%** through sourcing of **purchased goods** and **8%** related to the **upstream transport**. In total **81%** can be influenced by procurement.



Scope 3 emissions influenced by procurement (%)

(1) Purchased goods.

If we take the 73%, almost half of the emissions are caused by five raw materials/trading goods. The data are based on data provided by our foundry association. Those data come mainly from public accessible data base. For some main material we already got audited PCFs by our suppliers. In case we neither have data by our association or our suppliers, we define a standard for organic and inorganic chemicals. This standard value is always the highest in its class.

We are continuously collecting the PCFs of the suppliers to have much more realistic data for evaluation of materials and the next CCF 2024. During various meetings and presentations we continuously challenge and encourage our suppliers to

improve their PCF reporting and we increase the strategic awareness at our suppliers for sustainability.

Beside getting the PCFs of our current sourced material, the next step is to cooperate with suppliers and work on CO2 reduced materials and alternatives. Currently, the dominant way we see is via a mass balance approach. But also new biobased raw materials are part of our approval processes. As we cannot do these processes on our own we are dependent on our suppliers that is why it is essential to be in close discussions with them. The PCF of suppliers will be one criterion to award a business in the future.

(2) Upstream transport.

8% are caused by the transport to HA. Until today the main criterion to award a business was pricing and availability but we started to check the country of origin and the transport type used. For some raw materials we are dependent on specific regions, but we are continuously working on alternatives, also in our resilience project. In terms of changing the transport type to reduce emissions, there was a big achievement in 2023. Material which was shipped from the port Hamburg to our plant in Hannover by truck is now transported by barge via the Mittellandkanal. The CO2 saving in the on-carriage amounts to approx. 37% through this measure compared to the truck variant. Procurement and logistics are working closely together to reduce emissions in scope 3.4.

3.5.4 Together for Sustainability

The chemical industry set up the TfS initiative for this purpose in 2011. HA Group became a member in October 2023 and it the first company from the foundry chemicals sector to join the alliance. The aim of TfS is the joint development and implementation of a global assessment and audit program for responsible procurement of goods and services. It also provides webinars and training on sustainability. In this way, the initiative does not simply make environmental and social standards in supply chains measurable; it also contributes to a direct improvement. Harmonizing global standards in the supply chain creates transparency and makes it easier for both suppliers and customers to reliably assess and evaluate sustainability performance.



3.6 Cybersecurity and Data Protection

Increasing digitization has transformed our world and made many tasks and processes easier and faster. Important prerequisites for successful digitization at HA Group are cybersecurity and data protection. The challenges in cyberspace are increasing exponentially. This is attributable to the further professionalization of cyber blackmail, the serious effects of ransomware attacks, the increasing diversity of malware programs and their mutations, and critical weaknesses in widely used software products. Recurring headlines about security breaches and data leaks have shown that no organization is immune to these threats. The real costs of security incidents go beyond financial losses – there are risks of loss of intellectual property, insufficient adherence to regulatory and compliance requirements, insufficient robustness of critical IT and operational technology systems, as well as risks for third parties such as loss of customer data, and reputational risks. As a result, the need for an effective cybersecurity strategy has never seemed more urgent or relevant.

Data Protection. The protection of personal data is one of the principles used by HA Group to shape its relationship with employees, job applicants, customers, suppliers, other business partners, prospects, and other people affected. Therefore, handling personal data conscientiously is important to us. Since May 25, 2018, the EU General Data Protection Regulation (GDPR) is directly applicable

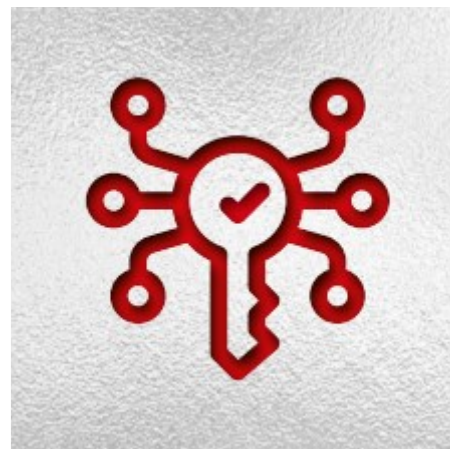
law in all EU member states. At the same time, national laws such as the Federal Data Protection Act (BDSG) in Germany were also amended.

HA Group has always attached great importance to data protection. Regarding the HA Group companies based in Germany, the relevant rules have already been observed and implemented prior to the GDPR coming into force. In the reporting period, the standard EU contractual clauses were a focus.

Availability of information material.

All employees have access to information on the relevant requirements and responsibilities via our internal communication platform sHAre. The organization of (EU) data protection and rules on reliable processing of personal data, including customer data, are set out, among other things, in the HA Group **Code of Conduct** and our **Data Protection Manual**. In addition, our employees have access to **General Information about the GDPR**, a **Fact Sheet** on how to deal with inquiries regarding so-called order processing contracts, and **Technical Organizational Measures (TOM)**. In the HA subsidiaries based in the EU, in addition to the external data

protection officers (**Data Protection Officers**), internal coordinators for data protection issues have been appointed. Our data protection management supports compliance with the regulations and assists the organizational units in implementing them. It also monitors the correct use of data processing. Data protection incidents are handled in accordance with the statutory and in-house documentation, information, and reporting obligations.



Training and sensitization. To train our employees and raise their awareness on the subject of data protection, a **comprehensive training** document was developed and made available.

In the reporting period, HA Group did not receive any complaints from customers relating to the loss of data or violation of data protection rules.



Data management	We use private and public cloud computing to deliver our services. This offers us high flexibility and scalability with relatively low setup and maintenance costs. The professional cloud hosting providers use the most advanced security measures and are certified accordingly. By using cloud computing, we also achieve increased and more continuous availability of services, as data and applications are distributed across multiple servers and locations. However, even in high availability cloud environments, implementing an effective backup system is critical to ensure the integrity and security of data. High availability ensures that services are available without interruption. However, it does not protect against data loss due to accidental deletion, data corruption, malicious attacks or other unforeseen events. Regular backups allow data to be restored to a specific point in time if undesirable events occur. This is critical for meeting compliance requirements, keeping mission-critical data secure, and minimizing downtime in the event of data loss. Complementing data protection through backups, we have file versioning. While backups aim to provide a snapshot of data at a specific point in time and thus protect against data loss, versioning provides fine-grained control over the evolution of files over time. Users are thus able to independently track the iterations of a document at short notice, which is a key advantage due to the increased occurrence of collaborative work.
Anti-virus	At HA Group we use AI-based antivirus protection, whose main advantage is the detection of zero-day weak points. These are weak points that have not yet been identified by security experts, so no virus signatures or updates have been provided for them. AI-based antivirus protection can compensate for this by detecting behavioral anomalies and stopping potential threats.
Cyber insurance	The HA Group is cyber-insured. Our implemented measures meet the requirement of our cyber insurance policy, which demands the highest standards in terms of security practices and protocols. Compliance with these requirements is verified through regular audits.

Risk-based checking of the security of IT systems	The performance of penetration tests, i.e. the simulation of hacker attacks by an externally contracted company, enables us to uncover potential weak points before they can be exploited by attackers. They also serve to raise general awareness of cybersecurity at HA Group. The penetration tests conducted to date have identified minor weak points, but none that could be classified as so critical as to pose an immediate threat. However, to further reduce the risk of cybersecurity incidents, it is not only the hardware and software that should be considered as an attack vector, but also the users or user accounts. So-called social engineering involves deceptive tactics in which attackers attempt to trick users into disclosing confidential information or performing malicious actions by posing as trusted individuals.
Prevention of social engineering	To prevent social engineering and to sensitize our employees worldwide, the following measures have been taken at HA Group: ▪ Conditional access – definition and implementation of access rules for resources based on specific conditions such as secure devices and trusted locations ▪ Multi-factor authentication – need for authentication at login via at least two factors ▪ Strong and secure password policy ▪ Training – regular and mandatory live and online training, i.e. on phishing, vishing, handling external data media ▪ Phishing tests / phishing awareness initiative Timely information on current threats is posted on our global internal communication platform sHAre or communicated via email.
Device management	At HA Group, Microsoft 365 (M365) is used as a standard desktop software and services for all common office applications. This automatically applies the Microsoft Cloud security mechanisms provided by Microsoft. In addition to tracking the latest developments in software, HA Group also looks at progress in hardware. The latest developments enable, for example, higher performance with lower energy consumption and the implementation of new and also security-relevant features. With features like “Windows Hello”, our users can take advantage of secure and convenient biometric authentication. In addition, better device manageability is provided, enabling or facilitating advanced control and monitoring of device security settings. All devices connected to our network are securely configured and their status monitored via endpoint management. This includes full hard drive encryption to protect sensitive data and ensure that even if a device is lost, the data remains inaccessible.



04

Social Affairs

- 4.1 Working at HA Group
- 4.2 Occupational Safety and Health
- 4.3 Diversity, Equity and Inclusion
- 4.4 Social and Community Engagement
- 4.5 Responsibility within the Supply Chain

4. Social Affairs

Our company's greatest strength lies in our employees' skills and motivation. As a globally operating family business, we are aware of our responsibility towards people and the environment and take it very seriously.

We are convinced that economic success is inseparably linked to the obligation to act responsibly. This applies not only to our own workforce, but also to all employees along our value chain and society as a whole.

With our HA Group Code of Conduct, or HA Group Global Employee Handbook and our established guidelines on our [Corporate Social Responsibility](#) (CSR policy), we commit ourselves to adhering clearly defined basic principles.

To enable our employees to develop their full potential, we aim to create an environment for them that is highly innovative and agile, diverse, focused on customers and results and based on reliability and strong cooperation.

Material Topics

Based on the materiality analysis done according to CSRD, the following topics are material to HA Group:

- Working conditions
- Occupational safety and health

Additionally, the following topic is within our strategic focus:

- Equal opportunities and diversity

Our Key Ambitions

In **Social Affairs**, we strive to create an attractive working environment for our employees worldwide that encourages individual capabilities and performance, supports their well-being and actively promotes the potential of a diverse workforce:

- Further development of our HR processes and activities in employee recruitment, development and retention, taking demographic change and challenges into account
- HA Group-wide standardized and comprehensive occupational safety and health management certification (ISO 45001)
- Further development of our HA Group-wide workplace health promotion

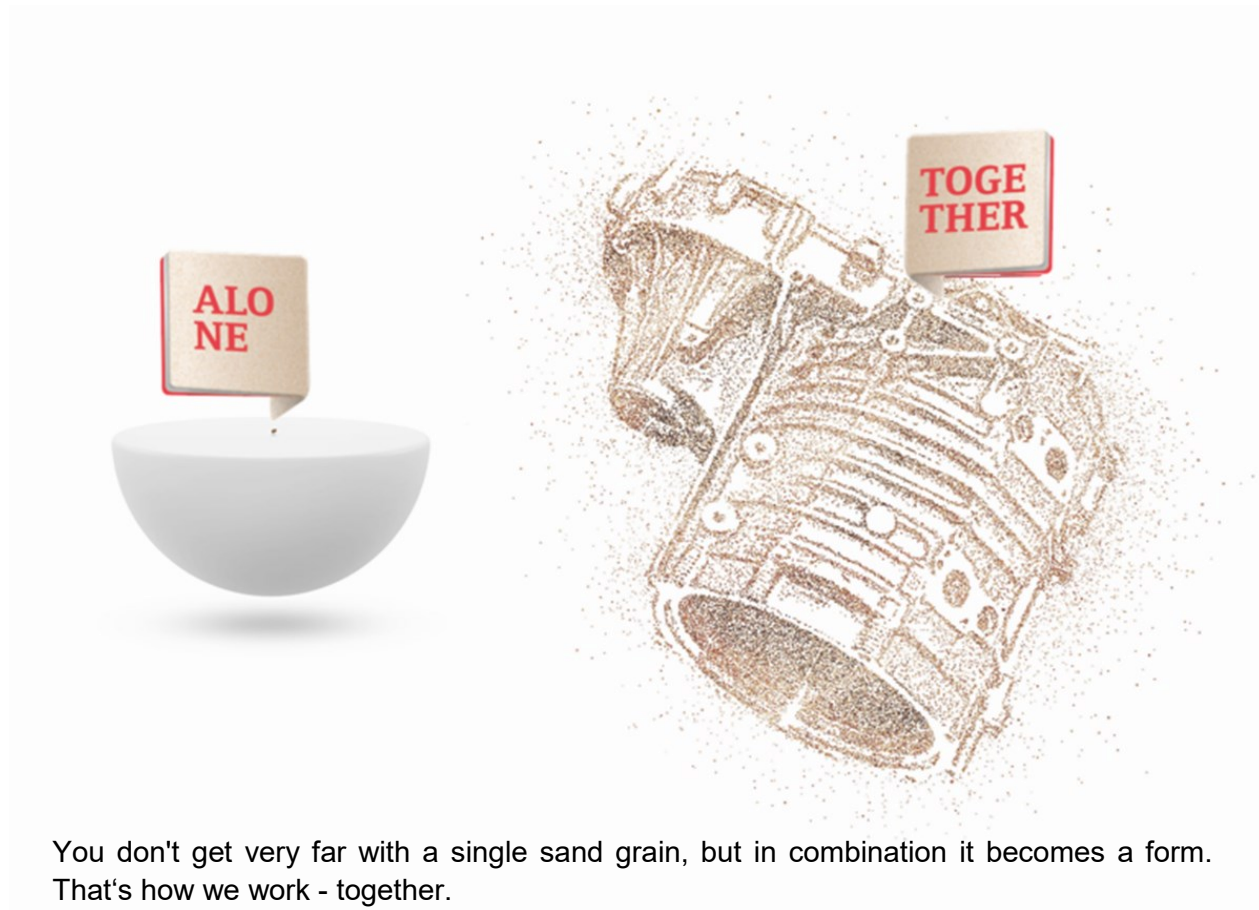


4.1 Working at HA Group

4.1.1 Corporate Culture

Commitment to our Employees. HA Group's business model is geared towards the long-term – a principle that also includes our employment policy. As a dependable employer we intend to live up to our responsibility as a family-owned company and offer our employees security and prospects, at a time when the external conditions for their employment in particular are subject to a wide range of changes.

Thinking about tomorrow. With tradition. Together. Worldwide. This is what HA Group is all about! We know that we can only achieve our goals together and are proud of our team around the world – our HA family. Around 1,800 employees make valuable contributions to the success of our group of companies every single day – no matter what area or position they work in. Our range of activities at HA Group is as diverse and exciting as our team.



Corporate Culture

Innovation

We wish to provide our customers with innovative services and we always aim to be among the best! We believe that standing still means going backwards. We look to the future and always set ourselves new goals. Are we satisfied with what we have achieved so far? Not even close.

The main ingredient for our recipe for success in innovation is the expertise and commitment of the entire HA family. We are proud of the fact that our employees are constantly developing their skills and are open to new challenges and change. Only through their daily work will HA continue to be innovative and successful for many years to come.

Tradition

HA Group is a modern family business with a century of tradition. Our strong roots and a corporate culture that has matured over many decades give us the security, reliability and valuable freedom we need to meet the future with confidence.

Our employees appreciate the advantages of working in a family business founded on the principles of independence, stability and loyalty. Since our foundation, we have placed great emphasis on long-term, holistic thinking and acting, always with a focus on the needs of our employees and customers. In the past, today and in the future: tradition and renewal are in perfect harmony at HA Group.

Communication

Communication is in our DNA. We use the latest digital communication tools, including a modern social intranet to provide all of our employees around the world with the latest news and insights into a wealth of relevant topics. Whether face-to-face or via video conference – we promote transparency and open discussions. The close working relationships in our company enable fast and efficient communication and ensure a pleasant working atmosphere.

As a medium-sized company, we operate with flat hierarchies so that every employee can have a direct influence on our daily business. Communication between levels and with colleagues from other areas is easy. And even though we are constantly growing – our communication grows with us.

Internationality

A true global player! Our group of companies has operations in over 30 countries and is represented in all corners of the globe. International thinking and acting have long been a reality at HA and important elements of our corporate culture. This international orientation promotes our growth, creates and secures jobs.

What does our globally oriented structure mean for HA's employees?

- Business contacts all over the world
- Potential international assignments
- Work in multinational teams
- Cross-border project work

This globalization not only enriches our corporate culture, it also increases the potential for creativity and innovation in research.

Global Employee Handbook. As already outlined in our **HA Group Code of Conduct**, which forms the fundamental basis for all our business activities and behavior, economic success and good corporate citizenship are inseparable objectives of our corporation. As such, responsible and ethical behavior towards employees, business partners, society and the environment is an integral part of our company's value system.

It is a given that we conduct our business in compliance with laws and regulations. However, we are in particular aware of our social responsibility and therefore attach great importance on respecting and upholding human rights as well as global labor standards and fair working conditions. We are guided in this regard by international standards such as the UN Guiding Principles on Business and Human Rights as well as the International Labor Organization (ILO) Declaration on Fundamental Principles and Rights at Work. Ensuring the achievement of these internationally recognized standards are integral parts of our corporate culture.

Our **HA Group Global Employee Handbook** describes the key areas of focus for the HA Group with regard to labor and human rights principles. It is intended to serve as a set of guidelines and standards with which we expect all employees globally to meet and which HA Group intends to conduct itself.

It is translated into 9 languages and made available via our internal communication platform sHAre.

It contains the following key messages:

Human Rights

HA Group does not tolerate child labor in any aspect of its business and has a zero-tolerance approach to modern slavery including forced labor and human trafficking.

We are committed to providing our employees with a work environment free of unlawful harassment, discrimination and retaliation.

Global labor standards and fair working conditions

HA Group is an equal opportunity employer, values the diversity of its employees and is committed to providing a healthy and safe workplace that is free from intimidation or violence of any type.

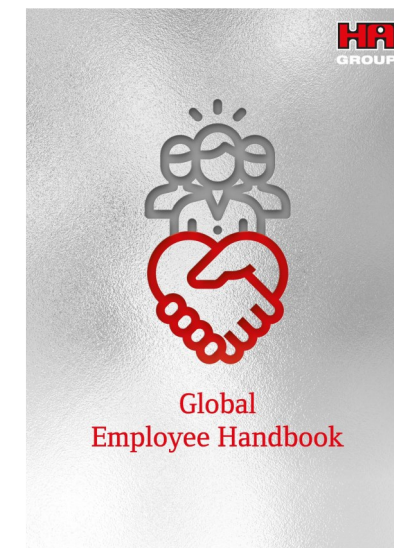
We promote social dialogue and uphold both the right to freedom of association and the right to engage in collective bargaining in accordance with applicable federal, state and local standards, laws and regulations.

HA Group is committed to providing fair and competitive conditions of work with regard to compensation and benefits and social protection for our

employees as customary in the country of operation.

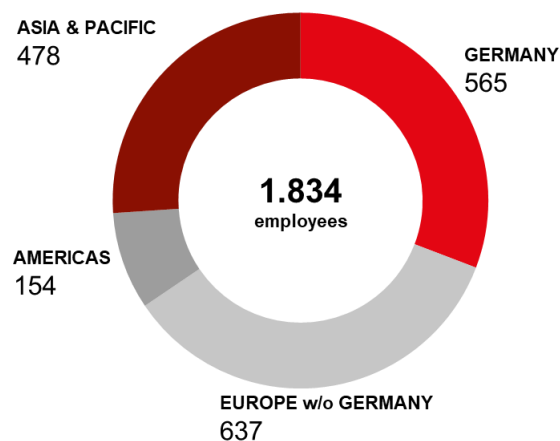
We strongly believe that the skills and knowledge of our employees are the basis for the Company's success.

Therefore, HA Group is committed to ensuring that its employees have access to skill development consistent with their particular needs, trainings on Company policies and procedures, and any other training which the Company believes is necessary to reach their potential and maintain the high levels of success and performance.



4.1.2 Employee Structure

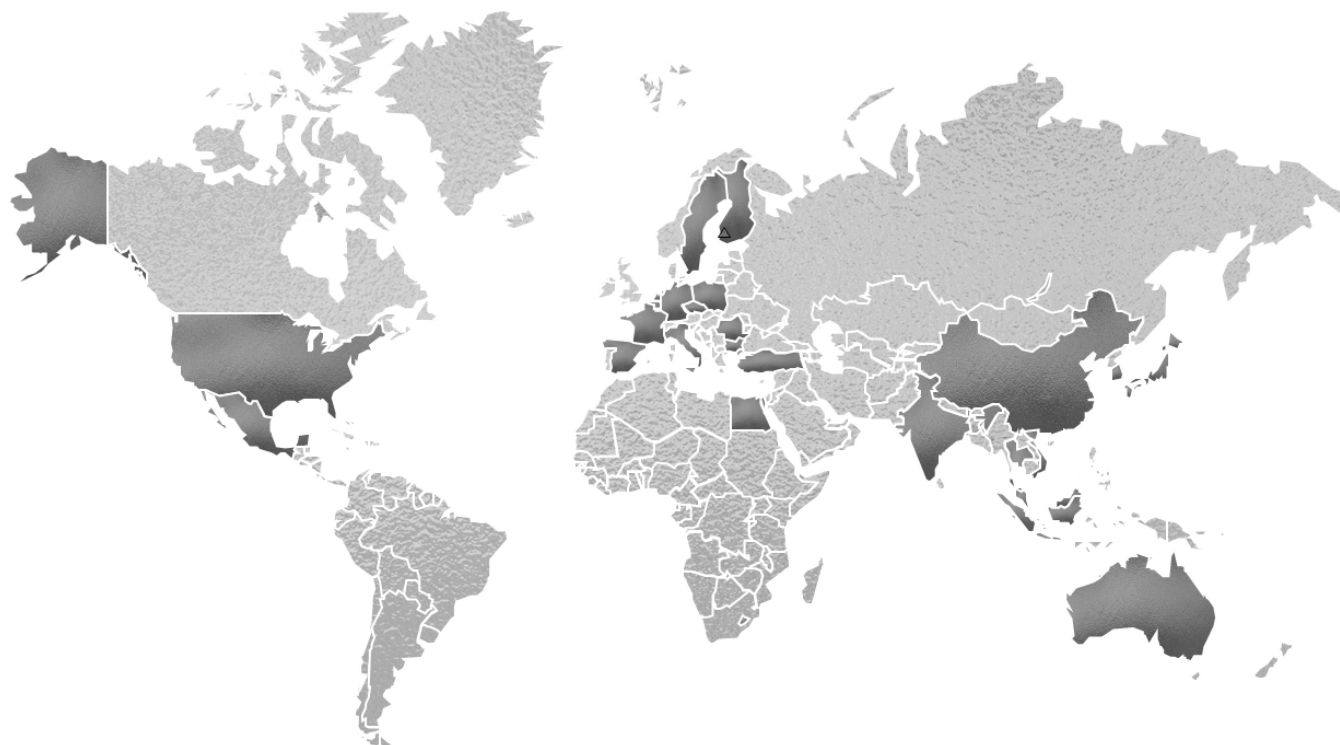
Number of employees. In the reporting year 2022, HA Group employed a total of **1,834 people**. Our global team 2022 was structured as follows:



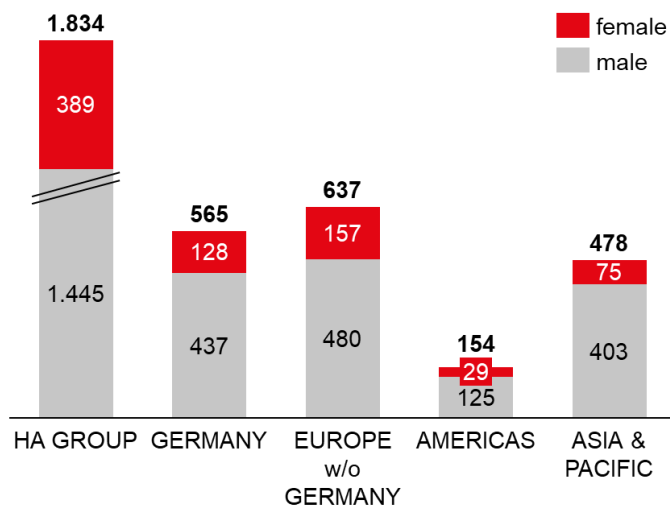
Total employees by region 2022 (number)

Employees by contractual status. These key figures can currently only be reported for the regions **Germany** and **Europe w/o Germany**. We aim to present them for the entire HA Group in the next report. A total of **85%** of our employees in Germany and **92%** of our employees in the rest of Europe have **permanent contracts**. We work with staffing agencies in Germany to cover short-term or temporary bottlenecks. All agencies must provide evidence of a valid operating permit.

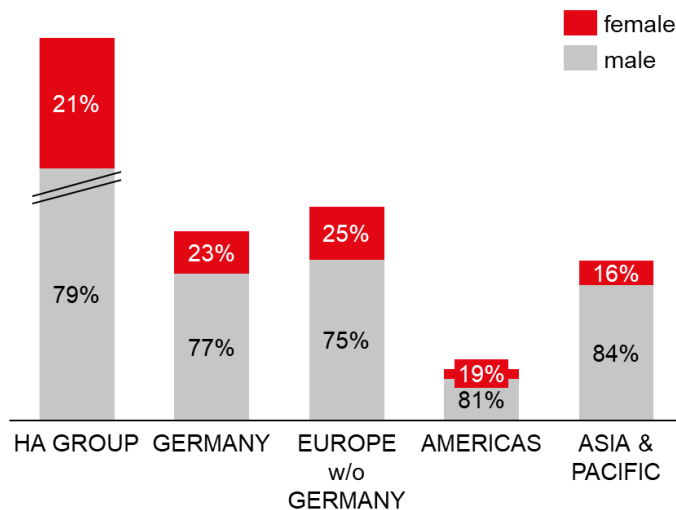
Alongside appropriate remuneration, we make sure that agency staff are covered by the high social and safety standards applicable for our own staff. On average for the reporting year 2022, HA in Germany (HA GmbH and Chemex Foundry Solutions GmbH) had around **39 agency staff**. Referring to the region Germany, the total number of employees at HA in Germany (HA GmbH and Chemex) consisted of **191 direct employees** and **374 indirect employees** in the reporting year 2022.



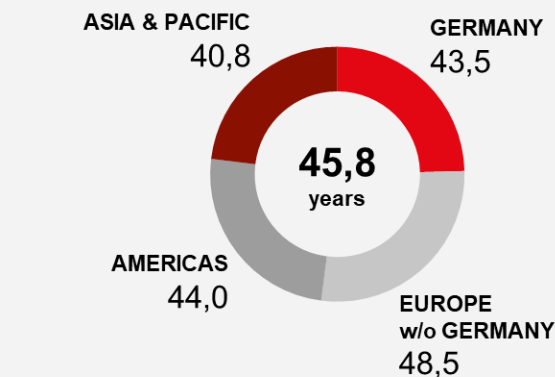
Employees by gender. In the reporting year 2022, the percentage of women in the total workforce at HA Group is **21%** with Germany and the rest of Europe above HA Group average.



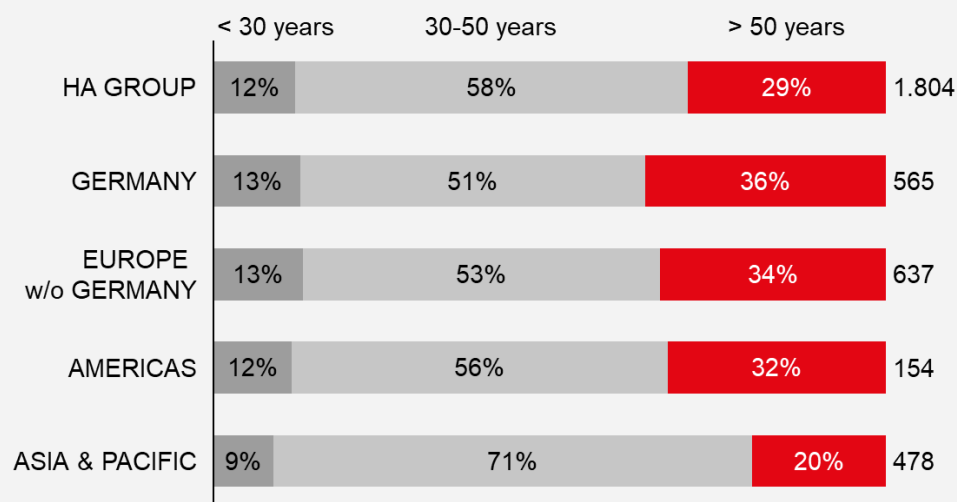
Total employees by gender and region 2022
(above number, below %)



Employees by age. The average age of HA Group's workforce was 45,8 years in the reporting year 2022. The majority of HA Group's workforce (in total and per region) is between 30 and 50 years old.

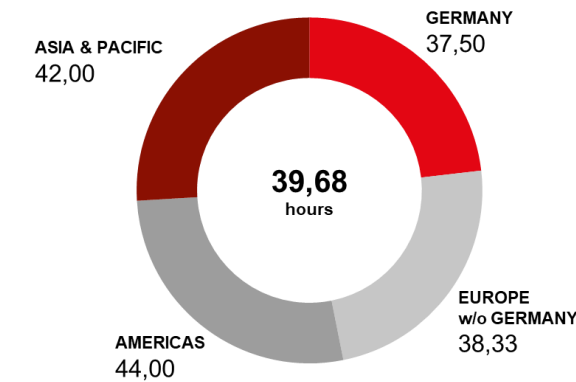


Average age in years 2022



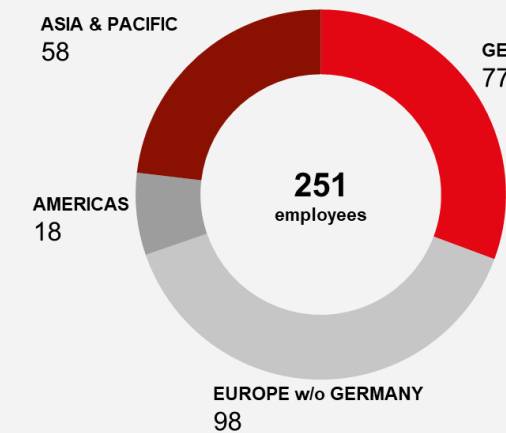
Total employees by age group and region 2022

Working hours by region. The average standard weekly working hours at HA Group are **39,68 hours** in the reporting year 2022. Germany and the rest of Europe are below average, while Americas and Asia & Pacific are above average.

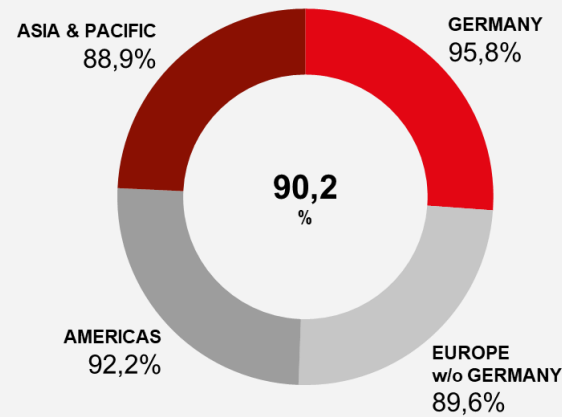


Average standard weekly working hours 2022

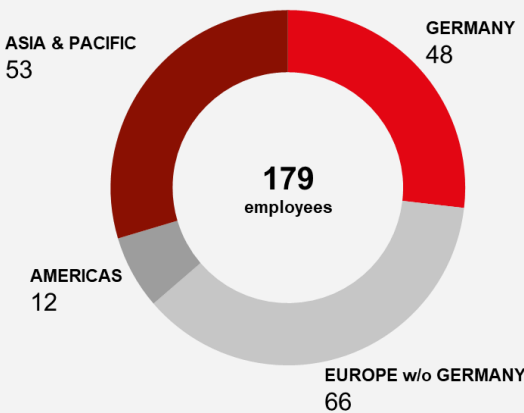
Employee turnover. In the reporting year 2022, a total of **251 new employees** joined and a total of **179 employees left** HA Group. The majority of employee exits relate to direct (blue collar) employees. The total employee rate is **90,2%** in the reporting year 2022.



New employees by region 2022 (number)



Total employee retention rate 2022 (%)



Employees exits by region 2022 (number)

4.1.3 Training and Skills Development

Well-trained employees are a key success factor in competition. HA Group's success is a team effort, involving the whole workforce. Our activities in training and skills development cover both vocational training of young people at the start of their working lives and continuing professional development of our employees.

Vocational training and dual study programs.

Vocational training is one of the key components of HA Group's personnel development activities. We provide training at the Dusseldorf, Hanover and Delligsen sites in Germany. In the reporting year 2022, HA Germany (HA GmbH and Chemex Foundry Solutions GmbH) offered **4 vocational training programs** and **one dual-study program**. A total of **6 school graduates** began an apprenticeship or dual study program with our company. A total of **14 people** were participating in our vocational training programs (spread over several vocational training years).

Employee development. Our company's success depends on having highly qualified and skilled people: We promote the skills and knowledge of our employees to help them achieve their full potential. We enable our employees to take part in advanced training courses, developing their strengths while targeting specific groups. We motivate our employees to continue learning throughout their professional lives and encourage them to be flexible in adapting to change.

Regular and open feedback about career development, performance and potential as well as individual development plans serves as a foundation for their development. This makes it easier to define individual development measures that address both the company's needs and each employee's potential.

In the reporting year, **37%** of all HA Group employees participated in **career development and performance reviews**, although only 9 out of 18 HA Group companies are currently pursuing a structured review process. At these 9 companies, the percentage of employees that participated in regular career and development reviews is **73%**.

Key figures on training hours and training costs are only available for the following HA Group companies for the reporting year 2022:

We aim to be able to provide these key figures for the entire HA Group in the coming reporting years.

In hours		HA GmbH	Chemex	HA France	HA Italia
Average training	annual hours	21,1	12,2	12	18
In Euro		HA GmbH	Chemex	HA France	HA Italia
Average training costs	annual costs per	645	290	213	508

Internal training platforms. To implement agreed development measures, we use our internal training platforms HA Academy and HA Campus in addition to individual further training opportunities such as training from external providers or coaching.



The **HA Academy** is our global training platform through which we offer a demand-oriented training and development program that addresses all employees with corresponding training needs within the HA Group.

The HA Academy is primarily intended to cover global trainings needs and does not replace local training and development management. It includes both leadership training as well as specific functional/technical training on a global scale, which is either conducted internally by an expert from our own organization or by external training providers.

The **HA Campus** is a national (German) training platform for all German HA locations including Chemex.

The training offered is based on the annual training plan and the training courses are held exclusively in German. The focus here is on soft skills training and training on HA's internal processes and standards.

International example: HA Germany

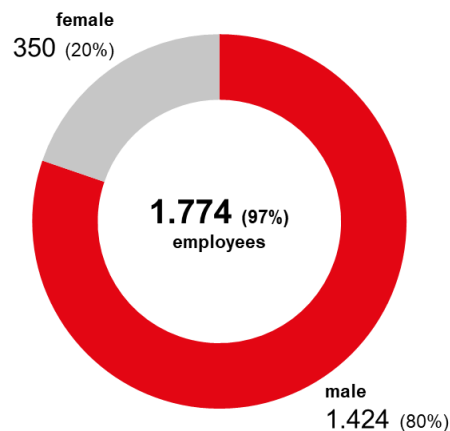
Apprentice weeks. Our vocational training event takes place at the beginning of each training year. The program includes a personal welcome from our management, excursions and informative seminars on HA Group and the world of work in general, as well as team-building and get-to-know-you activities.



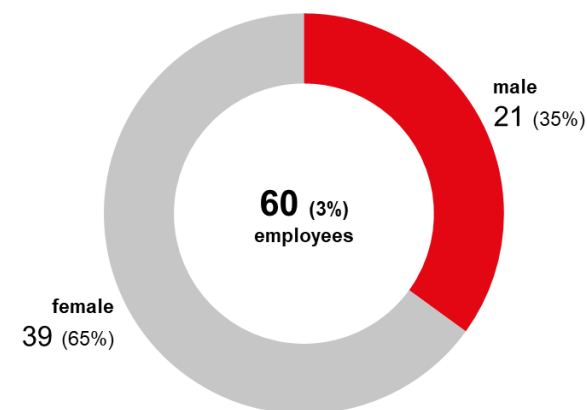
4.1.4 Work-Life-Balance

There is an increasing desire for more flexibility and more individual solutions depending on phase of life when it comes to organizing working hours and work location. For this reason, we offer our people flexible working models, which are structured according to the local requirements in their various countries, and in ways compatible with the employees' roles. Examples include **mobile working**, **part-time hours**, **parental leave**, and **partial early retirement**. Mobile working in particular will establish itself as the core element of a new normal and promote a sustainable work culture and working environment. With mobile working within this new normal, we want to motivate our people, improve our company's performance, and strengthen HA Group's profile as a flexible, and attractive employer.

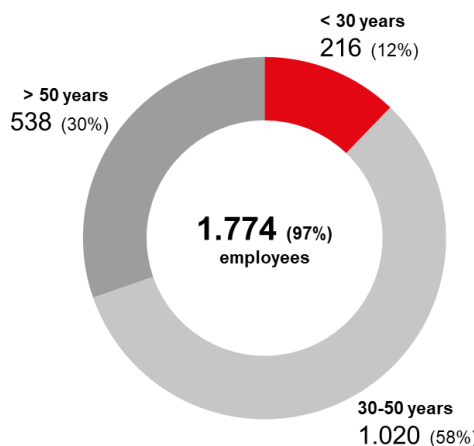
Working time arrangements. In the reporting years 2022, part-time employment is regionally most prevalent in Germany and the rest of Europe. **65%** of part-time employees within the HA Group are **female** and **57%** of part-time employees are between **30-50 years** old.



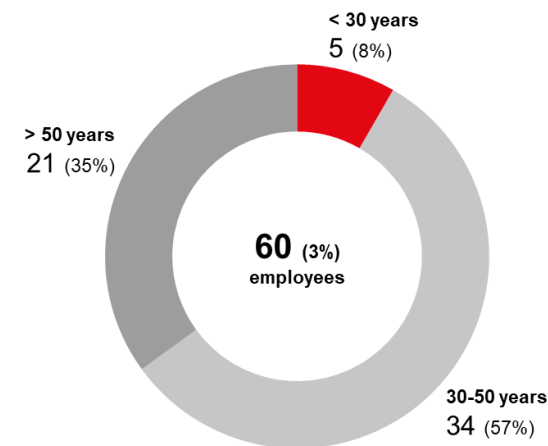
Full-time employees by gender 2022 (number and %)



Part-time employees by gender 2022 (number and %)



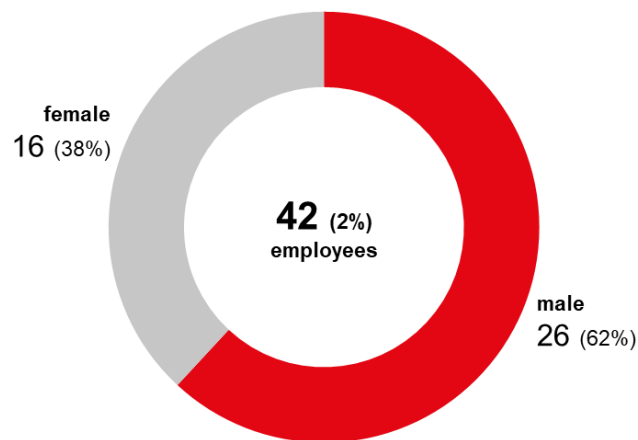
Full-time employees by age group 2022 (number and %)



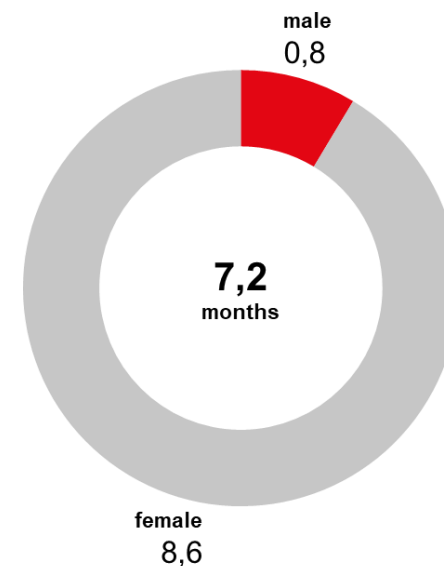
Part-time employees by age-group 2022 (number and %)

Parental leave. In the reporting year 2022, 42 (2,3%) employees began their parental leave, thereof 16 female employees and 26 male employees. The average duration of the parental leave for female employees was 8,6 months, for male employees 0,8 months.

Employees by gender who began parental leave in 2022 (number and %)



Average duration of parental leave by gender 2022 (months)



4.1.5 Fair Pay, Social Protection and Employee Benefits

Adequate wages. At HA Group remuneration is set on the basis of objective criteria such as responsibility, competencies, and success. In addition, we want to guarantee **fair pay** (coverage of basic needs) that at least conforms to the national statutory minimum wage or collective agreements. Personal attributes such as gender, age, etc., play no part in the process, and our policies explicitly forbid discrimination.

In the reporting year, all HA Group companies confirmed that national statutory minimum wages were paid.

Compensation and benefits. HA Group's **compensation and benefits programs**, which distinguishes the company and contributes to our success, is clearly linked to our fundamental employment principles and is an integral part of our overall management approach. The overall compensation approach is to balance between HA Group's need to be viable and profitable and the needs and desires of our employees. The total compensation package may consist of additional benefits or variable profit driven components in addition to the base salary. The total compensation is directed to support the ambitions of our employees to be successful and committed to the goals and objectives of our Company.

The total compensation program is managed to achieve a commercially sustainable package in full accordance with the local rules and legislation regarding social security contributions and tax withholding in the applicable countries and is ratified, for example, in individual contracts or collective labor agreements for our employees.

Social protection. HA Group provides **social protection** for employees as required in the country of operation and compensate employees for overtime in accordance with laws, regulations or collective agreements.



4.1.6 Upholding Employee Rights

Social dialogue such as information sharing, consultation, negotiation and collective bargaining, joint problem-solving and joint decision-making may take place at different levels and in various form, depending on national circumstances. However, HA Group recognizes that employers and employees have both competing and mutual interests. We recognize therefore the importance of social dialogue and its institutions, including at international level, as well as applicable collective bargaining structures and respect the fundamental rights of freedom of association.

Freedom of association. In the reporting year 2022, all HA Group companies confirmed to ensure non-interference in trade union formation and recruitment, bargain in good faith, adequate time off for workers' representatives to carry out their duties, facilities and dismissal protection for workers' representatives, no discrimination of trade union members and workers' representatives.

Collaboration with employee representatives.

We always involve employee representatives in discussions between the local Boards of Management, local HR departments, and employees. At 10 HA Group locations our employees are **represented by elected works councils**, which are involved both in personal actions specific to individuals and in negotiations regarding local company agreements. In Germany, in addition to the respective locations' works council committees, a general works council is in place for both German HA companies, HA GmbH and Chemex Foundry Solutions GmbH.

The respective works council committees and their members represent the interests of the workforce towards the company: They are contact points available to employees to refer perceived impairments to their rights, for example.



Our HA Group Presidents or the local management team communicate fundamental changes to the committees and employees in a timely and proactive manner. We achieve this through a range of communication channels, particularly our internal communication platform sHAre, video and telephone conferencing facilities, and written notices. In Germany, in the event of fundamental company changes the decision-making process is subject to the provisions of the Works Constitution Act. Implementation of the measures adopted is supported by the respective location's works council.

Collective bargaining. We offer our employees working conditions that in many instances exceed statutory requirements. **44%** of the employment contracts of our global workforce are covered by collective bargaining agreements. These give our workforce clarity and certainty with regard to remuneration, working hours, and vacation entitlement.

4.1.7 Child Labor, Forced Labor and Human Trafficking

Child labor. HA Group's commitment to respecting and upholding human rights (see chapter 5.2) also and especially includes children's rights. HA Group recognizes that every child has the right to, among other things, a healthy and protected environment with access to education, play and recreation, an adequate standard of living and protection from abuse and harm. We explicitly state, that HA Group does not condone child labor in any aspect of its business.

All HA Group companies confirmed that no children were employed in the reporting year.

All HA Group companies confirmed that age verifications were conducted in the reporting year to prevent child labor.

Forced labor and human trafficking. Modern slavery can take various forms, such as servitude, forced or compulsory labor and human trafficking. HA Group has a zero-tolerance approach to modern slavery.

We conduct our business to the highest possible ethical standards and are committed to acting with integrity and transparency in all our business dealings and relationships. We strive to achieve the highest legal, ethical, environmental and employee-related standards within our own business and supply chains, making sure that all stakeholders (including employees, partners and suppliers) are working together to eradicate modern slavery and human trafficking.

In relation to our supply chain, we are focused on working with long-term, strategic partners who demonstrate the same commitment to their people to ensure modern slavery plays no part in their or our business.

All HA Group companies confirmed that there was no forced labor or human trafficking in the reporting year.

International example: HA International (USA)

Measures to prevent forced labor and human trafficking. All employees are hired through a pre-employment process managed by Human Resources at all locations. Temporary labor are only hired through firms that have an active contract with HA-International with the same hiring practices as the company.

HR is present at 2 of 3 sites full-time and visits the remote site at least 5 times per year. Legal department conducts code of conduct and compliance training for all employees.

4.2 Occupational Safety and Health Management

Safety and health at work are a primary corporate objective. The HA Group considers it a self-evident duty to provide a safe and healthy (working) environment for its employees, customers, suppliers and all other persons working in or visiting its offices and/or production facilities worldwide. HA Group therefore manages its business in a way that is designed to ensure that we maintain the highest standards of health and safety at all our sites worldwide to minimize the risk of any impairment to occupational health and safety at the workplace. Our goal is to promote the well-being of our employees, customers, suppliers and visitors and to prevent work-related absenteeism. Accordingly, occupational safety and health as well as environmental protection are considered equal-ranking corporate goals alongside economic success, efficiency and quality, whereby economic considerations must never take precedence over safety and health.

In April 2023, the **Global Occupational Safety and Health Policy** for the HA Group was published which defines roles & responsibilities and describes principles & objectives. The policy therefore defines a minimum standard for the management of safety & health in the HA Group. Of course, protecting the safety and health of our employees is a focus topic in this policy and shall be reached by

Promoting and supporting the implementation of programs to maintain and improve the physical, mental health, and social well-being of our employees and contractors.

Providing our employees, contractors and third parties with safe working conditions to protect them from potential health hazards and injuries.

Completing risk assessments before conducting any potentially hazardous work. Appropriate protective measures including the usage of personal protective equipment if necessary, according to the assessment result must be taken as needed to ensure the work can be completed safely

The compliance with occupational health and safety regulations on regional level at any site of the HA Group is a matter of course and the basis of HA's acting. But also, by engaging all employees to support OSH principles we try to drive continual improvement in our OSH management systems and performance. In doing so, the OSH certification (ISO 45001) of our major manufacturing sites is one measure of following this principle with the latest success of HA GmbH in reaching the nation-

al certification "Systematic Safety" seal approval from the German Social Insurance Institution for raw materials and the Chemical Industry.

By performing risk assessments – on both a routine and non-routine basis – for workplaces and especially before starting any activity that might pose hazards to the worker or environment, we identify potential hazards and try to remove them before the start. This is done according to the STOP principle, the hierarchy of protection measures: substitution and technical measures taking precedence over organizational and personnel ones. In this sense personal protection equipment is the last rational when all other measures can't ensure a safe working condition. This is our approach to reduce the probability of occurrence and the potential impact of any hazard to the smallest possible extent. There is an important indicator of the success of our occupational health and safety measures: the **Lost Time Injury Rate (LTIR)**. It measures accidents worldwide with at least one day lost per million hours worked. We determine the LTIRs throughout the HA Group for our employees.

Health & Safety	2019	2020	2021	2022	Change 2022 vs. 2019
Number of working hours per year	3,043,985	2,773,481	3,250,535	3,419,461	12 %
Number of LTA (number	26	18	25	29	12 %
LTA-rate (normalizes on	8.54	6.49	7.69	8.48	-1 %

As part of its Sustainability Management HA Group aims to set a target for the reduction of its accident rate against the base year 2019. This target must be elaborated further.

HA Group recognized that a safety mindset of its employees is a main factor to ensure the safety of everyone in the workplace. Safety training is therefore an important aspect to improve the safety awareness of its employees, contractors and visitors and is performed for all employees on a regular basis.

Just recently a quarterly accident reporting has been implemented. In the global EHS-organization regular meeting are held for which each HA manufacturing site must prepare regular accident reports

with safety recommendations – ideally along with a root-cause analysis – to foster information exchange and learning from each other. This exchange format must be elaborated further and offers the possibility to identify and streamline Best Practices for common activities at various sites.

Beyond its focus on safety, HA also offers its employees opportunities to improve their health and well-being. These can include discounted rates at sports and fitness classes, information to manage their work/life balance and on ergonomics. To date, a systematic overview of all opportunities at different HA sites does not exist and must be generated also to check the acceptance by employees and finally to enable adjustments of such offers to the needs and preferences.

International example: HA GmbH (Germany)

Health Day 2023 in Hanover: a day full of inspiration & information. The “Health Day” is another component of workplace health promotion at HA. The aim of the day is to raise awareness of personal health. To this end, practical resources were offered to increase well-being at work and in personal life. Participants received helpful information on various health topics at the different stands. From ergonomics in the workplace to the possibility of measuring blood pressure and blood sugar, to nutrition and exercise or a quick massage - a wide range of areas were covered and there was something for everyone. One highlight was certainly the so-called “back check”, in which the torso, abdominal and back muscles were measured, and helpful exercise instructions were given to counteract back problems, among other things.

The successful combination of informative stands, practical activities and the dedicated commitment of all participants and partners made the Health Day a successful event for everyone involved.



4.3 Diversity, Equity and Inclusion

HA Group aims to establish a culture of diversity and inclusion throughout the organization and among all employees. As an international company with a presence in more than 30 countries, we see diversity as an opportunity and not simply as a social or political obligation. Employees with different backgrounds and personalities enrich our teams and our company. To us, diversity stands for the inclusion and interaction of different ways of thinking, backgrounds, experiences, skills, and individual qualities across all levels and dimensions of the company. Equity is an integral part of our corporate culture.

HA Group aims to create a working environment that is open and appreciative for all and free from prejudice. Open and honest communication characterized by mutual respect is encouraged. All employees are to be valued and treated fairly and equally - regardless of their ethnic origin, culture, religion, age, disability, skin color, biological gender or gender identity, sexual identity and orientation, or world view.

These aspects of diversity and inclusion as well as our commitment to human rights are anchored in our HA Group Code of Conduct and our HA Group Global Employee Handbook.

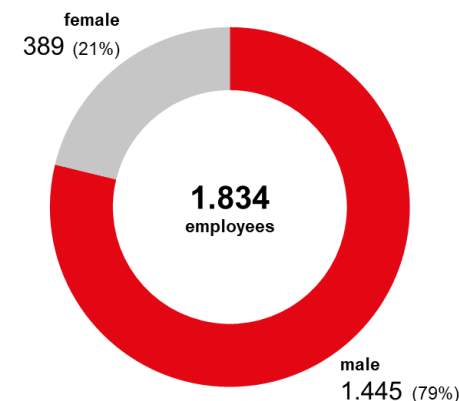
Gender equality and equal pay for work of equal value. Subject to national regulations, HA Group adheres to the principle of “equal pay for equal work” - for instance, equity in wages for women and men with the same job profile or same role. Personal attributes such as gender, age, etc., play no part in the process, and our policies explicitly forbid discrimination.

In the reporting year, all HA Group companies confirmed that the principle “equal pay for work of equal value” was complied within the scope of national regulations.

Internationality. Worldwide we employ people from over **30 different nations**. This extensive international background enables us to understand our customers around the whole world better.

Working with different generations. Collaboration across different generations is a key aspect of diversity and inclusion. HA Group strives for a well-balanced mix of ages and works to leverage the strengths of the different generations in a targeted way, and to avoid peaks in specific workforce age ranges due to retirement. The average age of the workforce is **45,8** years.

Women in the workforce. The percentage of women in the workforce at HA Group was **21%** in 2022. We aim to not limit advancing women at all levels of the company to complying with statutory or regulatory requirements.



Women in the workforce 2022 (number and %)

Employment and inclusion of persons with disabilities. HA Group strives to ensure equity for people with physical or mental disabilities, their inclusion in society and the workplace, and their self-determined participation and right to be treated with respect. We firmly oppose to all forms of discrimination. The proportion of employees with disabilities (provided the disability was disclosed to the employer) within HA Group is **0.7%**.

Zero-tolerance for discrimination, violence and/or harassment in the workplace. HA Group is committed to preventing violence and to maintaining a safe work environment for all employees. Therefore, HA Group introduced guideline set out in our HA Group Global Employee Handbook to deal with intimidation, harassment, or other threats of violence that may occur during hours of work. For HA Group it is indispensable that all employees including managers and temporary employees should always be treated with courtesy and respect.

One incident and two complaints of discrimination including harassment were reported within the HA Group in the reporting year. All cases were thoroughly investigated and - to the extend allegations could be corroborated - concluded with appropriate disciplinary action including in two cases termination of employment.

No severe human rights incidents were reported within the HA Group in the reporting year.

International example: Gargi HA (India)

International women's day. On 8 March 2023, with this year's motto #EmbraceEquity, a special event took place at the Gargi HA site in Chembur: our Indian female colleagues from various sites were invited to an exciting day on the topics of equal opportunities and diversity. To start the day, all participants first received small surprise gifts with nice messages as a sign of recognition and appreciation. Afterwards, the group learned more about this year's International Women's Day motto EmbraceEquity and "why equal opportunities are not enough" from an experienced trainer. Interactive team-building activities and workshops followed, as well as lunch together.

The management of Gargi HA was happy to use the occasion of International Women's Day again to personally thank all the women at the various Indian sites for their commitment.



4.4 Social and Community Engagement

Social responsibility is an important element of HA Group's sustainability strategy. This is why HA Group maintains open and constructive dialogue with all interested sections of the public and promotes activities and measures that contribute to environmental protection, the conservation of resources, the improvement of occupational health and safety and the improvement of the living conditions of socially disadvantaged people. We are involved in many areas that do not form part of our core business, but do foster the well-being of people and society as a whole. These commitments also center on a responsible economy that serves people and society.

Donations and sponsorship. In the reporting year, HA Group donated around **EUR 80,000** to non-for-profit organizations of which a large part has benefited refugees fleeing the war in Ukraine.

Non-monetary engagement. In addition to cash-donations and together with its employees, HA Group actively supports local projects that contribute to social and community development.

International example: Gargi HA (India)

Water filtration plant in Khopoli. As part of a new collaborative project, Gargi HA has funded a water filtration plant, which now supplies around 2,000 people in the four nearby villages with fresh drinking water.

Previously, the people of the villages received their water from an elevated tank that was sourced from a lake in the surrounding area. The water had to be treated at great expense before it could be consumed. With the new filter system financed by Gargi HA, all households in the region now receive freshly filtered water.



International example: HA Family helps refugees from Ukraine

Fundraising campaign for refugees from Ukraine. HA Group launched a fundraising campaign to support the refugees from Ukraine. Thanks to a very successful initiative organized by two of our employees, many urgently needed goods, such as bed linen, sleeping bags, towels, blankets, nappies for children, hygiene articles, etc. could be collected. The fully loaded trucks set off from HA Germany (Dusseldorf and Hanover), HA Ilarduya (Spain) and HA France in the direction of Lublin, Poland, where our HA subsidiary is based. Lublin is only 100 kilometres from the border and, as the first port of call behind the border, has already provided initial refuge for thousands of Ukrainian refugees.

Our colleagues from HA Poland have taken over the entire coordination of all donations and many colleagues have welcomed refugees from Ukraine into their homes.



4.5 Responsibility within the Supply Chain

Human rights in our value chain. Safeguarding human rights in our value chain is essential. We expect our suppliers to create fair working conditions and to enforce the principles in their supplier relationships as well. Through systematic measures such as the **Supplier Code of Conduct (SCC)**, we ensure that human rights are respected and that child abortion such as forced labor is not tolerated. By signing our SCC our suppliers ensure their employees' occupational health and safety by complying with all applicable health and safety laws and standards. Beside the social aspects the SCC also ask our suppliers to protect the environment e.g., to maintain biodiversity and to protect ecosystems. The SCC also includes a **whistle-blower hotline** for employees of suppliers and all other business partners who believe they are aware of a violation of applicable laws. The latest update of our **SCC** was published at our homepage in November 2023.

To identify and manage the environmental, social and economic impacts of our supply chain, an internal **Sustainable Sourcing Policy** was implemented and communicated in our global sourcing community in December 2021. All members of the sourcing community in the HA Group are committed to the rules defined such as:

Abide by all applicable laws and regulations and acceptance of following requirements and of our "Supplier Code of Conduct" is an essential prerequisite for any supplier wishing to work with us,

Refer internationally recognized standards like International Labour Organization (ILO), UN Global Compact, etc. to ensure fair working conditions and labor and human rights,

Environmental protection, health and safety – process safety excellence – throughout our operations, both to fulfil our social and legal responsibilities and to build the value of our business,

The latest update of our **Sustainable Sourcing Policy** was communicated in Feb 2022.

In addition to the holistic documents (SCC and Sustainable Sourcing Strategy), the operational purchasing of each individual order is based on our **General Terms and Conditions** and partially **supply contracts**. Both were also adapted to social, environmental, and economic aspects and highlight the importance of driving the transformation to a more sustainable HA Group.



05

Climate and Environmental Protection

5.1 Climate Change

5.2 Pollution

5.3 Water and Marine Resources

5.4 Use of Resources and Circular Economy

5.5 Biodiversity and Ecosystems

5. Climate and Environmental Protection

As the climate change and the protection of the environment and the nature in total are one of the major challenges of our time, the focus of our sustainability efforts is on measures which address climate change and take care of the environment and nature we are affecting with our doing. The HA Group is committed to ambitious climate and environmental protection targets. Everyone who works for the HA Group is expected to share this commitment by taking climate and environmental protection into account in everything they do.

The management of climate and environmental protection is becoming anchored more and more in our business processes and dedicated goals on single topics are constantly evolving.

The recently issued **Global Policy on Climate & Environmental Protection and Product Stewardship**, with its commitments to climate and environmental protection, reinforces and complements other important HA Group policies e.g., our **Code of Conduct**, the **Corporate Social Responsibility Policy** (CSR Policy) and the **Global Occupational Health and Safety Policy** to name just a few of them.

In addition to protecting the climate, HA Group's holistic approach to environmental protection focuses on the efficient and sparing use of natural resources, water and energy, and the protection of soil, air and water from pollution as a primary corporate objective. For this reason, a certified environmental management system (see page 64) is already in use at many HA Group sites and its application is being continuously expanded. In addition, the protection and promotion of biodiversity and ecosystems - at both regional and global level - is one of the requirements that the HA Group meets with appropriate measures. For the HA Group, product stewardship is another key component of its environmental protection policy. As early as the development stage, the focus is on minimizing the impact of products on the climate and environment as well as potential health and safety risks during production, distribution and throughout their entire service life.

We are aware that climate change, resource scarcity, and waste are some of the planet's most pressing challenges. Therefore, we have and will continue to take significant steps to both measure and reduce our emissions, energy usage, water consumption, and waste generation.

Material Topics

Based on the materiality analysis done according to CSRD, the following topics are material to HA Group:

- Climate change

Additionally, the following topics are within our strategic focus:

- Pollution
- Water & Marine Resources
- Use of Resources & Circular Economy

Our Key Ambitions

In mitigating climate change, we strive to reach climate neutrality as our long-term goal by 2045. Beyond climate change the efficient use of resources is an essential element within our sustainability management ensuring sustainable and resilient operations.

5.1 Climate Change

We are aware that with a total of 885.983 t of CO₂eq emissions HA Group belongs to the group of relevant emitters. Therefore, our priority goal in climate and environmental management is to significantly reduce greenhouse gas emissions. In order to achieve this goal, we have prepared an initial greenhouse gas balance sheet (corporate carbon footprint - CCF) for the HA Group for the year 2019. This is our defined baseline year, which we use to determine the current status and which serves as a reference for monitoring progress. By identifying emission drivers (hotspots), we can take targeted measures to optimize them.

5.1.1 Corporate Carbon Footprint

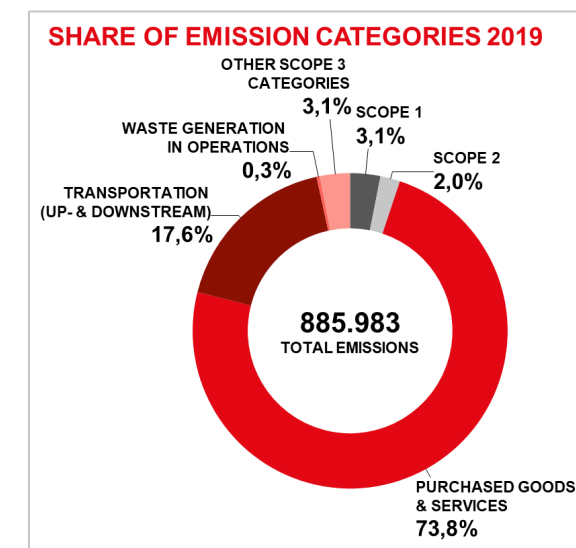
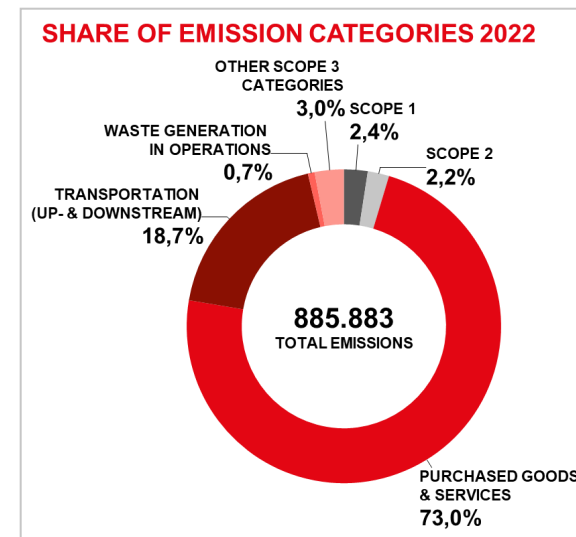
The Corporate Carbon Footprint for the base year 2019¹ is 885.983 t CO₂eq. This value is not just a snapshot for us, but also forms the basis for our ambitious greenhouse gas emissions reduction targets. A first recalculation of the Corporate Carbon Footprint has been done for the year 2022 with a main focus to enhance data quality. The analysis shows that the total volume of GHG emissions has just changed very little comparing 2022 against 2019 data, while there are bigger differences within the different Scopes as well as on the level of the individual companies.

Regarding the different scopes of our GHG emissions a first impact is visible with a reduction of approximately 10 % within our operative emissions

(Scope 1 & 2) which are under our direct control.

With regard to the results from the base year 2019, it can be seen that indirect emissions account for 94% of total emissions. With an average share of 73%, Purchased Goods & Services represents the main hotspot of the Corporate Carbon Footprint. However, also Upstream and Downstream Transportation account together for 19% (please see supplier relations).

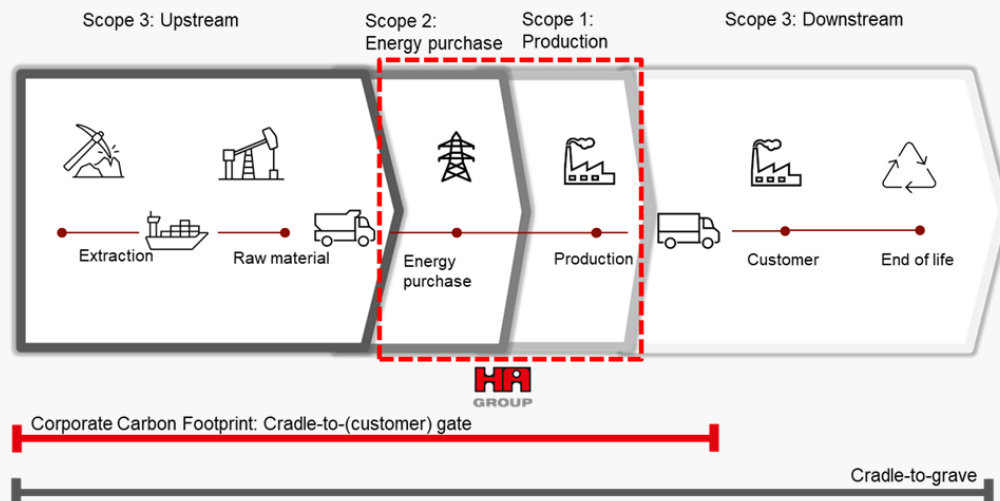
On company level the four biggest entities total 62 % of HA Group's GHG emissions and HA Group's Corporate Carbon Footprint is calculated based on the GHG Protocol standard. It includes all relevant greenhouse gas emissions of the HA Group, including its individual companies. In doing so, our operational boundaries are defined by the cradle-to-(customer) gate approach. This means that HA Group takes into account all direct and indirect emissions (Scope 1-3) that arise as a result of our business activities within the system under consideration. We record emissions from raw material extraction through delivery to our plants, our own production, and delivery of finished products to our customers' factory gates. The organizational boundaries are set by applying the operational control principle. This means that HA Group reports 100 percent of the GHG emissions from those (affiliated) companies over which it has operational control.



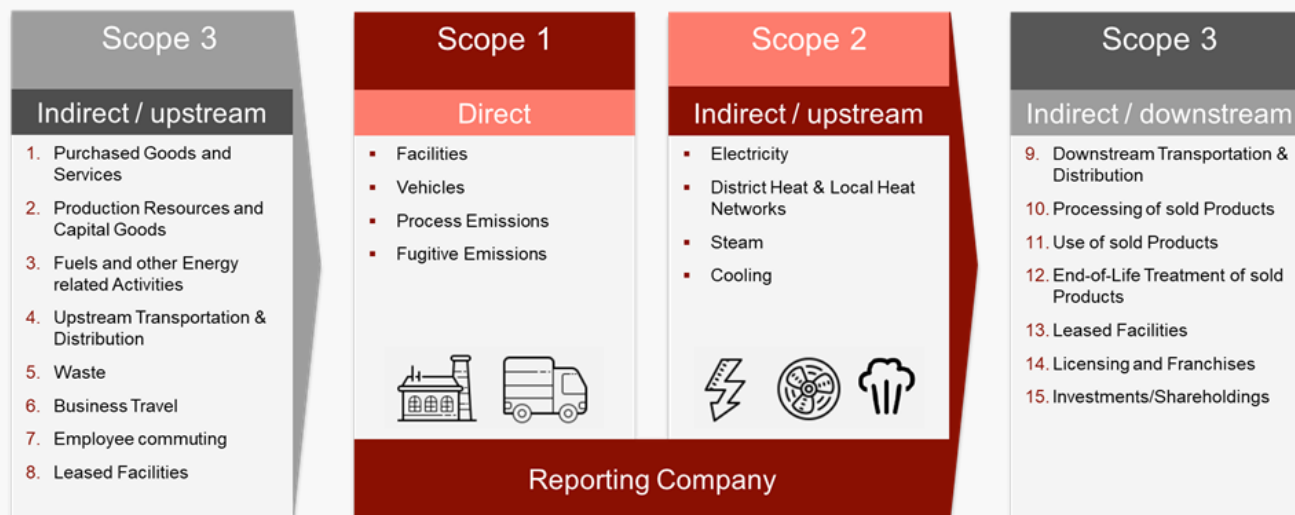
¹ The Corporate Carbon Footprint for the base year 2019 was recalculated in 2023 to improve data quality. Due to a lack of information about the Russian entity UCP-HA (no communication since the Russian invasion to Ukraine on February 24th 2022), it was taken out of the calculation for 2019 and 2022. For 2022 a new entity in Malaysia (HA ASEAN) was integrated, which is not accounted in the base year calculation.

Corporate Carbon Footprint @ HA Group

Cradle-to-(Customer) Gate (HA approach): Considers all processes from extraction & transport of re-sources until the making of the final product itself – including transport to the customer's gate.



Overview of GHG protocol Scopes and Emission Categories



5.1.2 Climate Goals

Based on the available CCF results, it was possible to define corresponding targets for the HA Group with the HA sustainability strategy, which was developed as part of the 2030+ strategy:

By **2030**, we aim to reduce our emissions for which we are directly responsible by 30% compared to the 2019 baseline.

By **2045**, we want to achieve **climate neutrality** (net zero).

The framework has thus been set to achieve these important milestones. A strategic development path has been defined, which will be consistently pursued through the implementation of appropriate action and implementation plans in close cooperation with the subsidiaries of the HA Group. In line with our commitment to the 10 principles of the UN Global Compact and the 17 SDGs of the United Nations, we align our actions with the objective of the Paris Climate Agreement to limit global warming to well below 2°C, preferably to 1.5°C. The achievement of these targets is ensured by regular reviews.

5.1.3 Product Carbon Footprint

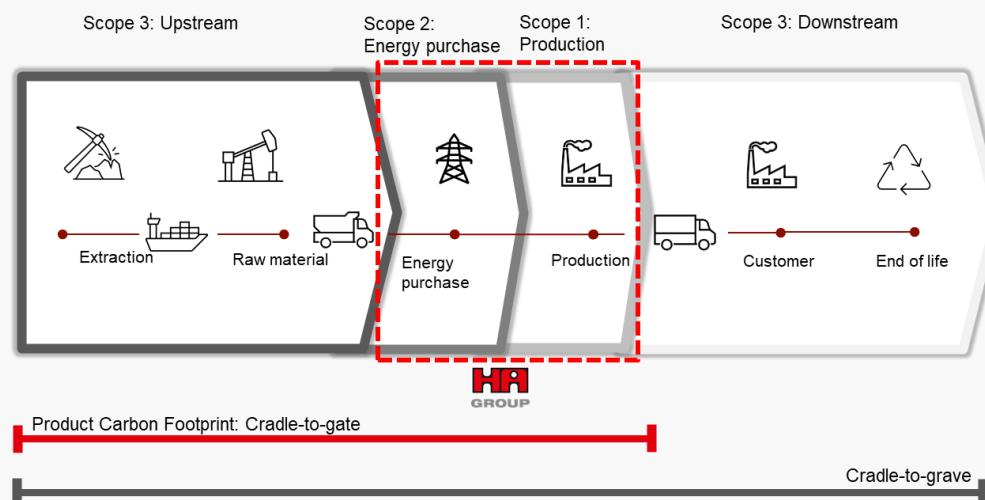
An important component of the HA sustainability strategy is the correct calculation of the Product Carbon Footprints of our products. The basis for this is a suitable method for data collection and processing. During a project in collaboration with Carbon Minds and colleagues from key functional departments (Sales/PM, Sourcing, R&D, Production & IT) a standardized calculation methodology for HA Group was developed.

The framework for the future HA methodology is defined by the guidelines of the Together for Sustainability Initiative (TfS), which is considered the gold standard in the global chemical industry.

As a result, our method will also meet the relevant ISO standards (ISO 14067) for life cycle analysis for products in the future. The aim of the HA methodology is the correct calculation of resilient PCF values for our products. Based on these values, we are able to optimize the climate impact of our products and communicate reliable PCF values to our customers. Subsequently, the HA methodology for calculating PCF values will be rolled out globally.

Product Carbon Footprint @ HA Group

Cradle-to-Gate (HA approach): Considers all processes from extraction & transport of resources until the making of the final product itself – until it leaves the company gate (at HA)



5.1.4 Energy Management

The efficient use of energy and the reduction of energy consumption in total are key issues to ensure a continuous reduction of energy related emissions. To ensure a Besides

With the aim of optimizing the use of energy in the company economically and ecologically, HA Group introduced already at some sites a certified energy management system with a clear ambition to implement such an energy management system at all production sites latest by 2028. For us, certification is not only recognition of what we have achieved so far, but also an incentive and obligation to continuously pursue the topic of energy efficiency, as it is an important corporate goal for us anchored in our management principles.

We are successively converting all HA companies to the purchase of electricity from renewable sources. This also includes the installation of photovoltaic systems at our plants.

Since 2021 six photovoltaic systems have been installed at six different sites within HA Group. The installed capacity is 1.897 kWp delivering approximately 1.960 MWh of electricity per year.

We take environmental and energy factors into account in all operational decisions, including planning and procurement. Emissions and energy consumption are measured regularly, and potential improvements are identified and implemented.

Total primary energy consumption

	2019	2020	2021	2022	change '22 vs '19
Gas (kWh)	97.889.475	59.357.213	63.822.968	64.806.112	-34%
Electricity (kWh)	35.290.714	30.105.923	35.185.785	34.703.485	-2%
<i>Thereof renewable energy (kWh)</i>	<i>1.248.653</i>	<i>1.058.229</i>	<i>1.305.491</i>	<i>1.591.840</i>	<i>27%</i>
Steam (kWh)	17.411.693	13.256.636	16.237.145	14.825.453	-15%
Propane (kWh)	571.221	414.375	453.502	531.326	-7%
LNG / CNG (kWh)	-	-	-	636.631	n/a
LPG (kWh)	-	-	-	94.584	n/a
Diesel (l)	509.299	318.438	344.211	447.892	-12%
Gasoline (l)	274.072	250.530	260.205	265.064	-3%
Heating Oil (l)	7.686	8.253	9.469	7.430	-3%
Coal (metric tons)	1.938	1.831	2.953	2.435	26%
Briquettes (metric tons)	683	-	-	-	-100%
Furnace Oil (l)	23.075	202.046	47.972	53.513	132%

At HA, we do not just pay lip service to the efficient use of energy and the sparing use of resources but have been living this reality for a long time. As a supplier to the energy-intensive foundry industry, we are constantly working on solutions that help improve sustainability in this sector.

5.2 Pollution

5.2.1 Air Pollution (excluding CO₂)

The climate change is on the daily agenda and certainly the reduction of CO₂ emissions is the foremost target for the HA Group when it comes to pollution to air. However, HA Group monitors other air pollutants namely Sulphur Oxide (SO_x), Nitrogen Oxide (NO_x) and particulate matter (PM₁₀) which emerge during the manufacturing processes.

Total additional emissions to air (metric tons)	2019	2020	2021	2022	Change 2022 vs. 2019
NO _x -emissions	16.0	4.12	3.43	10.86	-32 %
SO _x -emissions	0.22	0.11	0.09	0.25	15 %
PM ₁₀ -emissions (dust)	130.37	84.16	56.08	39.16	-70 %

Other pollutants like non-halogenated volatile organic compounds (VOCs) arise mainly due to the use of non-halogenated solvents, cleaning agents and thinners in production processes. Most of HA's production sites are equipped with a regenerative thermal oxidation (RTO) which burns relevant VOC-amounts collected from production areas / halls to CO₂. As all these emissions are not considered material, they have not been included in HA's environmental targets.

5.2.2 Water Pollution

We assure proper wastewater treatment prior to discharge. While unpolluted water from cooling-only usage is led to nature all contaminated water is caught in sewage systems to ensure proper treatment. Many of our sites pretreat wastewater before it is sent to municipal wastewater treatment centres. Some manufacturing sites operate an own wastewater treatment plant. The systematic over-

view how many installations exist within the Group does not exist yet and needs to be created by collecting corresponding data. Further information on the water management regarding volumes can be found in the appropriate chapter "Water and marine Resources". However, to minimize our environmental impact, we maintain water quality standards set by regional regulations at the sites we operate to protect ecosystems, wildlife, and human health & welfare.

5.2.3 Soil Pollution

HA Group supplies products for mould and core production that can withstand high temperatures in a range of foundry processes to deliver the best casting results. HA is a technology leader in the field of foundry chemistry, which is the root and still the major business field of HA Group. The chemicals added to moulding sand make everything possible by accelerating production schedules, improving productivity, and allowing an infinite variety of geometries and shapes to be casted. Important product types include resins as well as water- and alcohol-based coating solutions.

Handling chemicals generally poses the risk of contamination of the soil on site. Based on appropriate regulations for chemicals installations and storages, production facilities as well as tank farms are equipped with a secondary containment. This safety layer normally prevents contamination of the soil. However, filling into sales packaging and even more the internal transport processes of such sales packaging rise the risk of a leakage: even approved dangerous goods transport packaging (e.g. IBCs) don't have a secondary containment as a safety feature. Overfilling or piercing the packaging with a forklift truck is then always a risk. Additional to dedicated operation areas appropriate emergency measures (plan) and resources (people and absorbent material) must be available. Throughout the HA Group we track the so-called

Process Safety Incidents which are defined a release of energy or material which meets all three of the following criteria:

- chemical substance or chemical process involvement
- consequences above a minimum reporting threshold
- Location

Process Safety	2019	2020	2021	2022	Change 2022 vs. 2019
Number of working hours per year	3,043,985	2,773,481	3,250,535	3,419,461	12 %
Number of PSI per year	10	4	18	21	110 %
PSI-rate (normalized on 1,000,000 working hours)	3	1	6	6	87 %

These events – the loss of a primary containment – is defined depending on the hazards of a chemical: the stricter the classification the lower the necessary amount of material (threshold) qualifying for a PSI. Finally, the number of PSI and the corresponding rate PSIR (normalized on 1.000.000 working hours) is an indicator how safe operations are performed. The lower the absolute number and the corresponding rate is, the lower is the risk of soil contamination.

The systemic collection of possible soil contaminations (only release of material) and ranking regarding the severity (from contamination possible to

contamination occurred, in what extent) must be further worked out.

5.3 Water and Marine Resources

Water is becoming increasingly scarce around the world. Water is a valuable and critical resource throughout our operations as well as for the communities in which we operate. So, sustainable wa-

ter management is an important part of operational environmental protection. We want to continuously improve our water protection measures. This also includes adapting our practices to the increasingly strict legal requirements.

Our processes and procedures are designed to meet and exceed all applicable water discharge limits and requirements. Our operations primarily utilize water in cooling towers, steam generation, and to a lesser extent, within our products. Our manufacturing sites reuse water to reduce the amount of groundwater and freshwater withdrawn, primarily seen through the recirculating water systems for cooling towers. The water directly abstracted from the environment is used mainly for cooling purposes in closed-loop cooling cycles. However, depending on legal requirements and the energy balance, we also cool with fresh water in continuous flow, but only in regions with a high availability of fresh water. For example, at our French site Pont Sainte Maxence we utilized 99.990 m³ in such a way: groundwater was pumped and used to cool the installations and was then led without any pollution (except heat) into a river nearby. However, a technical and economic study has been proposed to the French Environment Agency (DREAL). The aim of this study is to limit water consumption, in particular groundwater withdrawals.

Total water consumption (m ³)	2019	2020	2021	2022	Change 2022 vs. 2019
Water supply	429,782	329,634	353,387	349,139	-19 %
Process water	67,014	45,269	51,382	56,947	-15 %
Cooling water	276,485	204,371	213,159	187,933	-32 %
Waste water	96,470	83,170	95,045	75,223	-22 %

The source of water we use varies by region. There are examples where water supply is secured by other ways than using fresh water exclusively from the public water supplier. For example, at our Indian production site Khopoli rainwater is collected on roof surfaces and is used in addition to borewell water to secure roughly 66% of the fresh water supply – the remaining amount is supplied by tank trucks. Data for water withdrawals are sourced from meters on-site, utility bills or environment management systems.

Water wells are used also at other production sites for securing water supplies but a comprehensive overview for the HA Group is not available to date. We will perform a systematic analysis of water stress in the regions we operate manufacturing sites and use significant sweet water resources by applying the WRI Aqueduct Water Risk Atlas. With this tool the overall water risk is indicated per region by aggregating indicators from the physical quantity, quality, and regulatory & reputational risk categories to classify regions on a scale from low to extremely high water stress.

Based on this analysis we will derive and prioritize adequate measures with the aim to reduce the water usage regarding quantity but also address the quality of used water.



5.4. Use of Resources and Circular Economy

At HA Group, we are also concerned about the re-use of our products to promote their return to the material cycle. The same applies to our research processes, with factors such as sustainability and recycling playing a crucial role in our innovations.

5.4.1. Amine recycling

One recycling example is the implemented recovery process of amine scrubber solutions produced by the air cleaning systems connected to the PU Cold Box process. This is an example of circular economy which is implemented at HA Germany and other European countries with our strategic partners. At present, the leading technology and most important process used to produce sand cores at iron and aluminum foundries is the so-called PU Cold Box process. With this technique, sand and special binders are used to produce sand cores, which are then fumigated with special amines. These amines act purely as a catalyst helping to accelerate the time needed for the sand cores to harden and consequently to ensure that the required rate of production is reached. An exhaust air cleaning system removes the amines from the air – ensuring there is no risk to human health or the environment. With the recyclers patented processes the amines can be removed from the amine scrubber solution. These amines are of high quality and can be used again in the PU Cold

Box process. At HA Germany the R&D facility and the sleeves production facility use this recycling system for their amine scrubber solutions like a lot of foundry customers do as well.

5.4.2. Waste

The European Waste Framework Directive (WFD) sets the basic concepts and definitions related to waste management, including definitions of waste, recycling and recovery. The WFD lays down some basic waste management principles. It explains when waste ceases to be waste and becomes a secondary raw material, and how to distinguish between waste and by-products. These principles are the basis of HA Groups waste management approaches. We will utilize our metrics to further develop waste minimization and management strategies.

HA Group's manufacturing technologies are designed to provide the highest possible levels of raw material conversion to finished product, with the lowest achievable resulting by-product and waste generation. Most of the waste we produce is hazardous liquid and solid waste from chemical plant operations. For example, aqueous distillates from

Resin production containing Phenol are one important hazardous waste fraction which must be disposed by incineration. Measures to reduce the mass of this waste fraction are in focus since producing Phenolic resins will always lead to such a waste fraction. Modifications of the manufacturing process are underway to significantly reduce the mass.

Our operations also produce non-hazardous solid waste, including general plant waste. Construction and remediation waste are also reported in our metrics. All waste disposal is managed in accordance with applicable regional regulations that minimize environmental impacts resulting from treatment, transportation, and disposal.

Our sites adhere also to regional regulation standards for waste disposal that include determination of what constitutes hazardous and non-hazardous waste. This was used as a minimum requirement for the classification and determination of disposal method for waste. Data is reported from waste manifest invoices indicating removal of waste by a licensed third party from the site.

Total waste generation (metric tons)	2019	2020	2021	2022	Change 2022 vs. 2019
Total amount of waste	21,048	13,048	13,922	14,652	-30 %
<i>thereof hazardous waste</i>	<i>2,556</i>	<i>2,991</i>	<i>3,699</i>	<i>5,033</i>	<i>97 %</i>

5.4.3. Use of Distillates

In addition to aqueous Phenolic distillates additional distillates are produced during the manufacturing process, namely alcoholic and acetone distillates. All distillates which contain a valuable amount of useable raw material (Phenol, alcohols, Acetone) are used again in the production process. Only when the amount of water reaches a certain amount so that the use as raw material is not possible anymore these aqueous distillates are disposed: in case of the alcoholic and Acetone distillates disposal with energy recovery is performed while for Phenol (approx. 7%) containing water disposal by incineration is necessary. For example, at HA Germany – which is the largest production site of HA Group – 3.745 tons of distillates were produced during the manufacturing processes in 2022. In total 1.760 tons of them or 47 % could be used again in the manufacturing process. Finally, in total 1.902 tons of aqueous distillates had to be disposed of which 1.590 tons were disposed by incineration. One important approach is to reduce the aqueous distillates by changing a starting material. This will reduce the water content in the manufacturing process and therefore the resulting mass of aqueous distillates for incineration.

5.4.4. Packaging

Packaging material is always a possible source of significant amounts of waste. Preferably reusable containers as packing for HA products are

envisioned, either IBC containers for resins or tank containers for coatings. However, based on customer recommendations also smaller volume packaging for products made of plastic or metal are used. To keep the packaging material as long as possible in circularity a sorted collection prior recycling of packaging waste is necessary. HA Germany has dedicated cooperation partners who assure the appropriate recycling of packaging waste: RIGK GmbH for plastic and paper packaging and KBS GmbH for metal packaging. These partners ensure that the returned material is recycled in a reliable and environmentally friendly manner. Depending on the material, the focus is on material recovery, to generate new products again, or on energetic recovery for energy extraction through

incineration. The advantage of recycling: the waste quantity is reduced– whilst increasingly scarce raw materials are spared. Additionally, by closing to loop of material cycles, a lot of CO₂ emissions can be avoided – this is documented by corresponding climate protection certificates for HA GmbH based on packaging waste mass from RIGK and KBS, respectively.

Since packaging waste is an important topic within the whole HA Group a systematic evaluation of the approach in other countries where HA Group operates is planned. A comparable approach throughout the whole HA Group offers a significant CO₂ emission potential when new packaging is made from recycled material instead of using new raw materials.

International example: HA GmbH (Germany)

RIGK & KBS as cooperation partners for industrial packaging: For customers of HA Germany the cooperation with the above-mentioned partners allows them to bring the packaging waste of HA products free of charge to the collection bases of RIGK & KBS. By doing so packaging taken back by RIGK or KBS can be recycled as material. In general, the recycling process consists of the refinement or material recycling of pure materials.

Plastic materials are crushed, cleaned and finally remelted to form new plastic products and thereby successfully closes the recycling cycle. Steel packaging are pressed into single-origin scrap cubes, which are melted down and processed back into crude steel in the steelworks. The next products are made from this and the cycle begins anew. Whenever waste incineration with energy recycling is necessary, e.g. if plastic packaging contained hazardous substances, all selected waste incinerators have the necessary legal approvals.

5.5 Biodiversity and Ecosystems

The protection and enhancement of biodiversity and ecosystems are a major topic on the 2030 agenda of the United Nations' Sustainable Development Goals.

We are conscious of the importance of biodiversity for the nature and human life and want to protect the environment and the biological diversity. Preventive environmental protection as well as an early consideration of constructional, equipment-related and organizational measures are in place at all production sites intended to prevent contaminations with (hazardous) chemicals and pollutants in general from occurring.

At HA Group protecting biodiversity and ecosystems is focussed on minimizing potential negative impacts related to its own business activities. Possible active measures in protecting and enhancing biodiversity and ecosystems are described in the Global Policy on Climate & Environmental Protection and Product Stewardship. Beyond considering those measures we will perform a systematic analysis of the surrounding environment of our production sites regarding conservation areas and sensitive ecosystems to derive and prioritize adequate measures with the aim to protect and enhance these.

Measures to be considered within HA Group and its affiliates are described in the Global Policy on Climate & Environmental Protection and Product Stewardship and combine practical implementation and the support of (local and global) initiatives.

Humming noises. Bees are among the most important animals as they contribute invaluablely to the preservation and reproduction of wild and cultivated plants in our natural environment. They belong to the most important pollinators worldwide and the protection of their habitats and the careful handling of the colonies has become a pressing task for us humans.

Monocultures in fields, the use of pesticides and the sealing of areas are among the reasons why bee mortality has increased in recent years. Setting up beehives at two of our locations in recent years shows how individual commitment on local level can contribute to a positive impact.

International example: Gargi HA (India)

Tree-planting campaigns. Worldwide, more and more land is being deforested, the proportion of natural green and forest area is continuously decreasing - an urgent problem for humans and the environment. Less trees and plants lead, among other things, to higher air pollution.

With numerous tree planting campaigns, on World Environment Day (5th of June) or in collaboration with the Lions Club of Khopoli, our Indian colleagues from Gargi HA have been making a valuable contribution to environmental protection for many years. Thousands of individual trees with a variety of some hundred different regional





International example: HA GmbH (Germany)

Düsseldorf city bees. One might think that keeping honeybees in the inner city does not contribute to solving this problem: but this is not true. More and more colonies of bees are being kept in inner cities, whether on rooftops or on private property. In this case, the industrious bee colonies benefit from a diverse selection of flowers and a continuous supply of nectar in metropolitan areas. In addition, there is also no extensive use of pesticides in cities, which means that the health of the animals is less at risk.

The HA site in Düsseldorf with its beautiful green spaces has been the ideal home for two bee colonies since spring. Under the expert guidance of beekeeper Jutta Lichter, the two colonies have developed wonderfully and it is a real pleasure to watch the buzzing bees at their busy work.

International example: HA France (France)

Bee colonies at Bourron-Marlotte. Since summer 2020, seven bee colonies have found their home on the HA France premises in Bourron-Marlotte. Carried out in a collaborative action of the HA France team, the hives were expertly set up and looked after.

In addition to the meaningfulness of the initiative there was another advantage: For the neighbours in the vicinity of the plant, the settlement of the bee colonies sent a positive signal that HA France's is taking care of the environment in total and its site surroundings in particular.





06

Research and
Innovation

6. Research & Innovation

Research and development means – now more than ever – developing increasingly sustainable products. It means optimising processes and products so that they are successful for many years to come, save resources and protect the environment and people.

We know that industrial processes have an impact on the natural environment. Which is why we strive to limit this impact, if not avoid it altogether – that is what motivates us every day and guides our research and development.

Targeted research



Clean air
Emission-free casting:
No smoke, no BTX, no odour.



Technology leadership
Developing and deploying the
best products to maximise
efficiency for our customers.



Circular economy
Optimal use of resources and
complete material cycles.

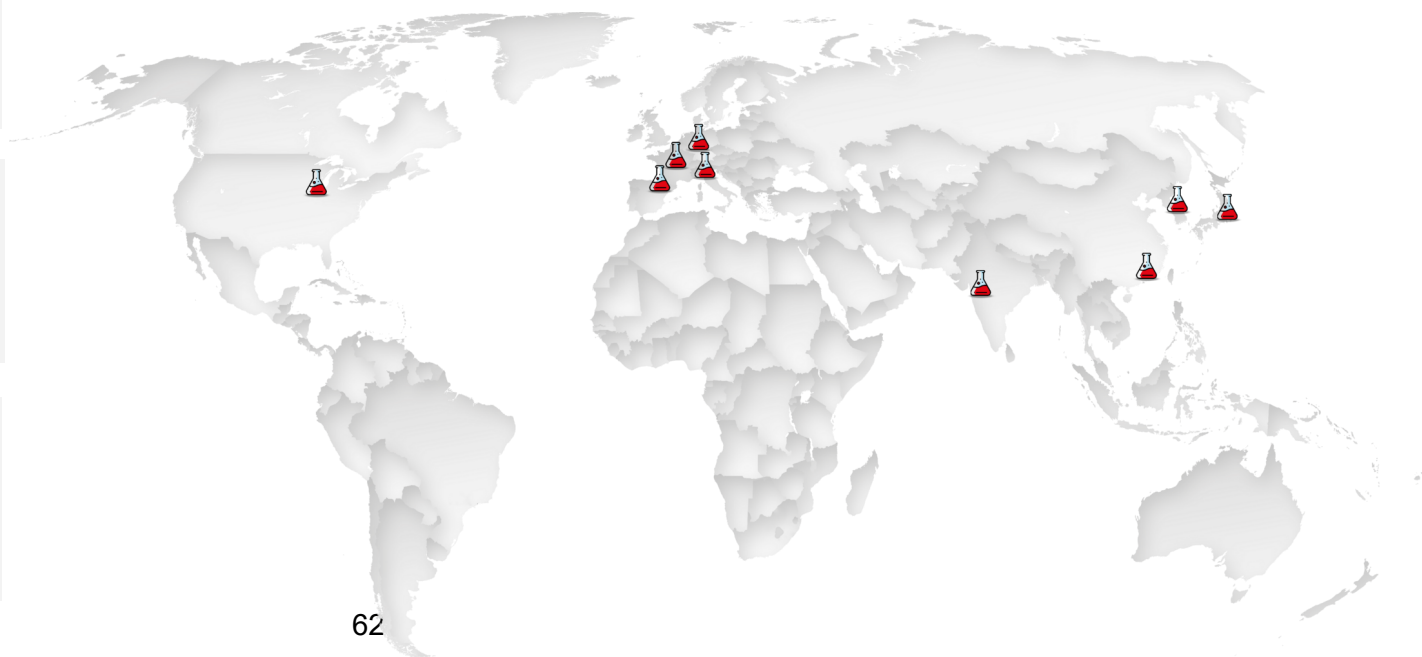


Climate protection
Avoidance or reduction of
CO₂ emissions

Research all over the world. Innovations seldom happen by accident – in most cases, they are the product of a great deal of hard work, expertise and experience. As a global company with customers all around the world, we rely on a multicultural team and a network of global research hubs.

Because we know: every innovation and technological advance is only successful if it benefits our customers – regardless of borders or regions. More than **150 industry-leading scientists and specialists** work across the HA Group to develop innovative and environmentally friendly solutions for our customers.

We are currently actively researching at **9 locations** around the world. In addition to developing technological advances for customers in their region, each research centre has its own special research focus. Our Global Technology Leads work worldwide to make sure that insights and discoveries are shared between each of our research units on a regular basis.



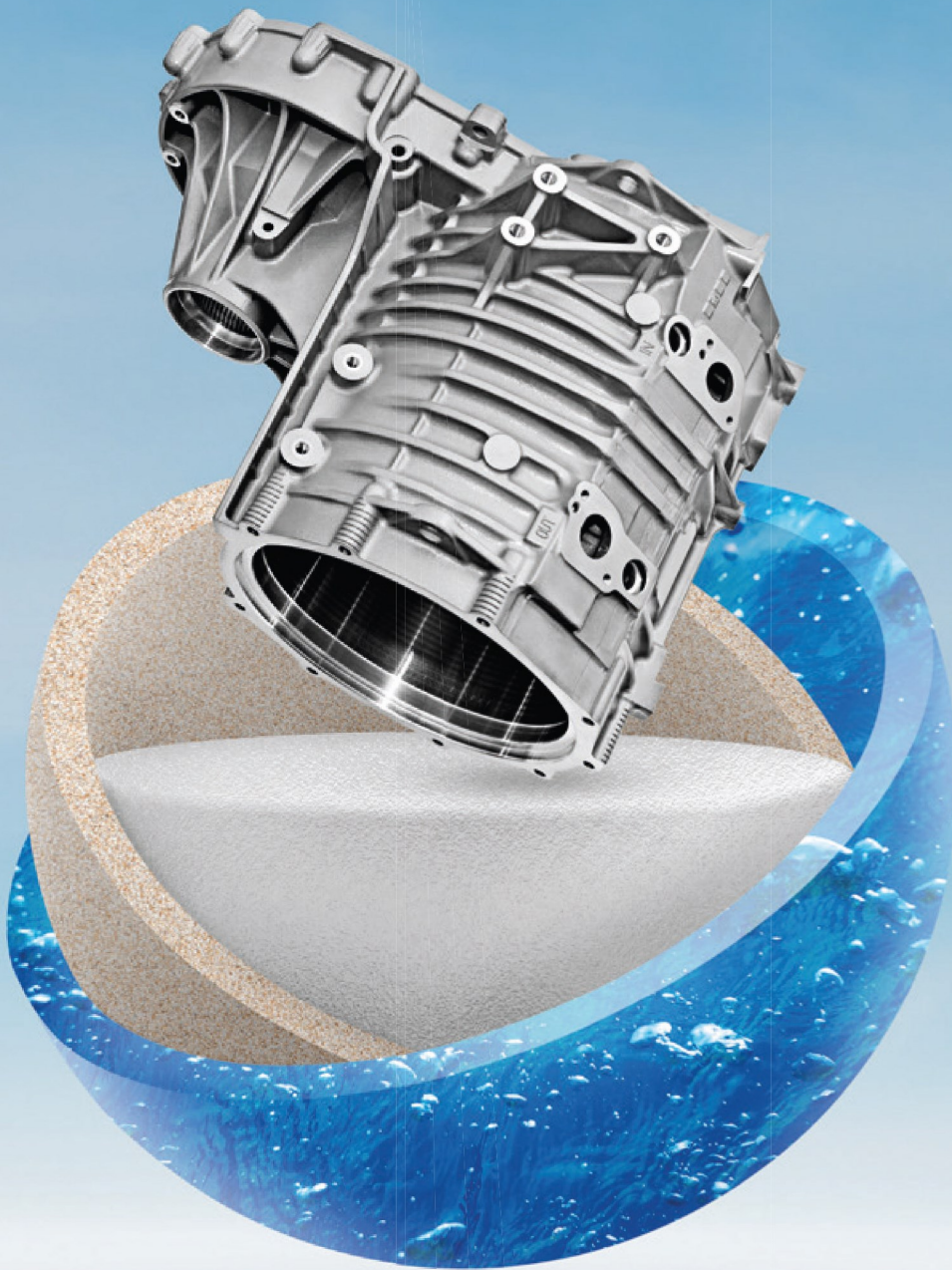
Our research and development laboratory in Hanover opened in late 2017 and offers more than 2,500 square meters of space for:

- basic research,
- application development,
- and analytics.

We have created an ideal, state-of-the-art environment for our 50-strong, highly qualified R&D team to carry out research, conduct experiments and exchange ideas in a spirit of creativity and intensive collaboration.

All around the world, our specialists work together in interdisciplinary teams. The heart of our global network is in Hanover, where our R&D teams come together to pool their research and innovations.





07

Customer Focus and
Product Quality

7. Customer Focus and Product Quality

The highest possible quality standard of our products is the declared goal - for every new development, for the HA systems used worldwide on a daily basis, for every batch.

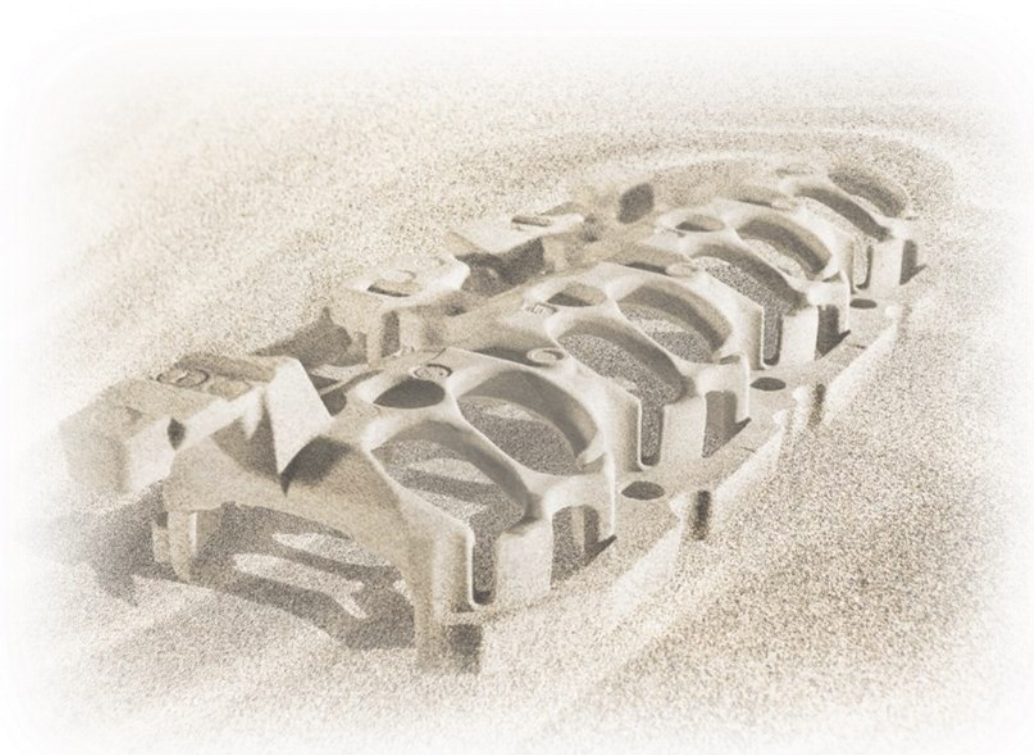
Certified management processes. Since the highest possible quality of our products and a clear commitment to safe and environmentally friendly production are the backbone of our success, corresponding management systems according to the statutory norms DIN EN ISO 9001 and DIN EN ISO 14001 have been implemented and certified. Beyond this, also energy and OHS management systems have been implemented at some sites already.

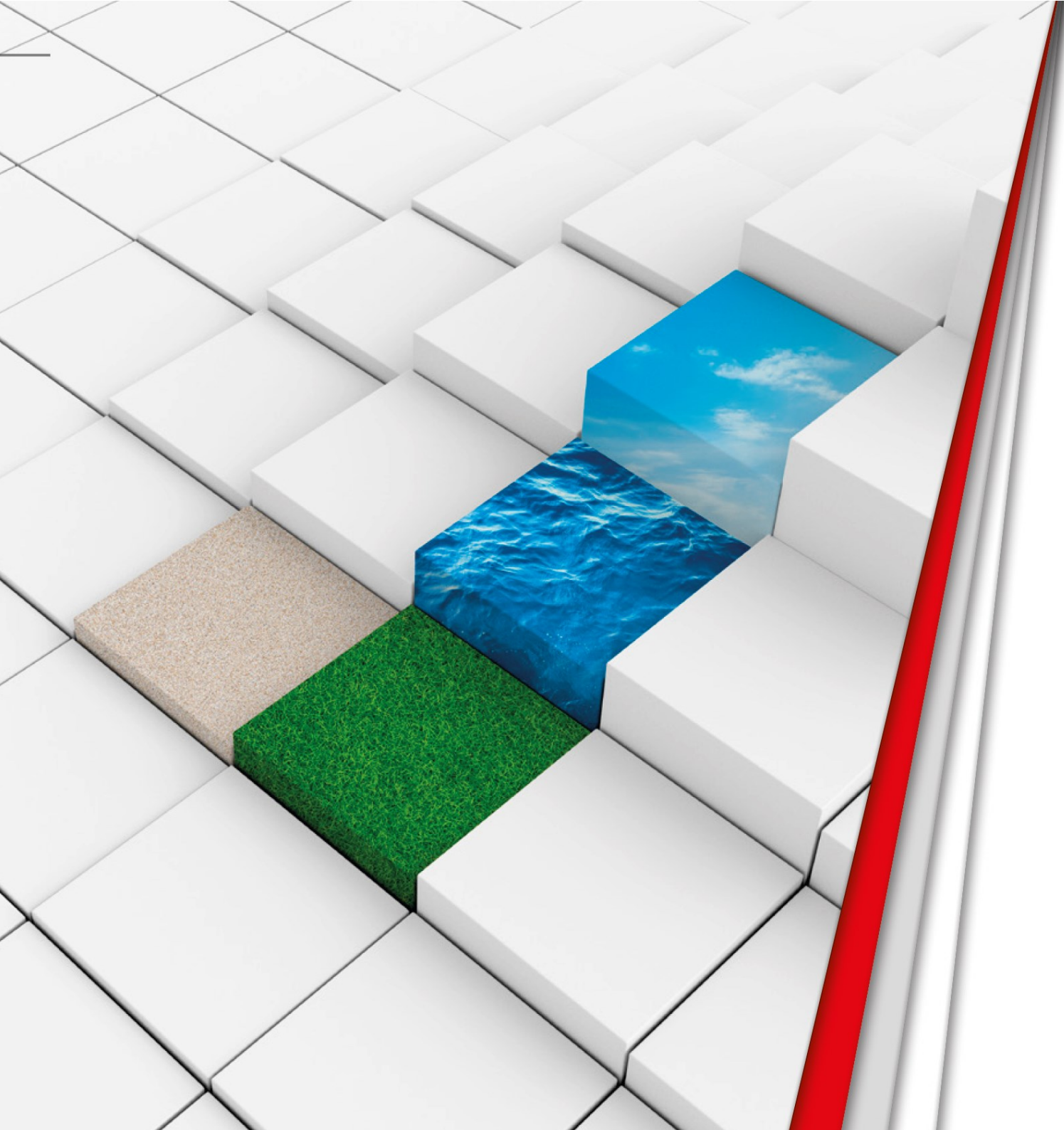
Even with everything we have achieved, we are determined not to rest on our laurels: For HA, the management processes are never complete: they are continuously lived, developed and constantly monitored throughout the entire HA Group. This approach allows us to identify and address potential for improvements at the earliest possible stage.

Certifications of our Management Systems in 2023

Code	Standard for	Share of subsidiaries* covered
ISO 9001	Quality Management	100%
ISO 14001	Environmental Management	79%
ISO 45001	Occupational Health and Safety Management Systems	43%
ISO 50001	Energy Management	29%

* trading units excluded





Contact

Contact

Dr. Matthias Mentzel

Senior EHS & Sustainability Manager

[E-Mail](#)



Frederik Lietz

Manager Strategy Development Production & Technology and Sustainability

[E-Mail](#)



Constanze Kaßner

Head of Global HR

[E-Mail](#)



