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VOITH

2023 Sustainability Report

Sustainability Report 2023

Dear Readers,

This year we have worked hard on optimizing our sustainability performance once again. Measurable progress has been made, as a glance at our key sustainability indicators will show: In recent years we have progressively reduced our greenhouse gas emissions, not to mention our energy and water consumption. I would like to take this opportunity to express my sincere thanks for the dedicated commitment of our many colleagues at our global production sites and from Ecological Business Management (EBM), who have contributed significantly to this achievement.

With our around 22,000 employees here at Voith, we successfully mastered the last fiscal year despite a very challenging environment: We increased our incoming orders, and our consolidated earnings after tax rose to € 73 million despite rises in interest rates, high financing costs, and increased expenditure on research and development.

“Industrial sustainability is our business model. We are therefore making a crucial contribution to a climate-neutral industrial society while at the same time ensuring our future growth.”

Dr. Toralf Haag

However, the success of our commitment to greater sustainability extends beyond the usual key performance indicators (KPIs). The following awards given to Voith in the 2022/23 fiscal year serve as prime examples of this commitment:

- Our XcelLine paper machine won the German Sustainability Award 2023. What swayed the jury of the German Sustainability Award Foundation was the contribution our machines make to achieving the climate goals of Agenda 2030 – from the choice of materials and efficient operation to long lifespan.

- A second award went to our innovative Electrical Drive System (VEDS) concept in the form of the Environmental Technology Award in the energy efficiency category from the Baden-Württemberg Ministry of the Environment, Climate Protection, and the Energy Sector. The jury was impressed by the VEDS covering the same distance with one fifth less charging current.

- Voith North America received the Procurement Partner Sustainability Award of the University of Notre Dame, USA. The award is presented annually to a supplier that has supported the university’s sustainability efforts with new and innovative products or services. Voith supplied state-of-the-art StreamDiver turbines to a hydropower facility that supplies the campus with electricity from renewable sources.

Our sustainability performance also compares very favorably with that of other companies: The ISS ESG independent rating agency rated Voith B- for a third time in 2023, after 2021 and 2022, and awarded it Prime Status for the sixth time in a row. This makes Voith one of the world’s leading mechanical engineering companies when it comes to sustainability.

I am convinced that we are making a positive contribution to climate protection with our attractive products and our consistent implementation of a comprehensive, long-term sustainability strategy. Sustainability is both our business model and a firmly anchored corporate value here at Voith. The entire Voith Corporate Board of Management has pledged to make sustainability the foundation of all its strategic decision-making and to consistently drive forward our sustainability activities worldwide.

Realignment of our climate protection strategy

To ensure that we achieve our sustainability targets, we continuously review our strategy and develop it further still. With our official commitment in December 2023 to the Science Based Targets initiative (SBTi), we are realigning our strategy and committing to ambitious climate targets that are in line with science and the goals of the Paris Agreement. One important step is that we have stopped buying carbon offset certificates with immediate effect. I am certain that we can advance climate protection more effectively and more sensibly with our own ideas and resources. And we can do this because of the wealth of expertise in our Group, our extensive knowledge, and proven innovative capacity.

Focusing on the megatrends of decarbonization and digitalization remains a top priority for Voith. Our shift from being a traditional mechanical engineering company to becoming a sustainable technology Group with a high level of digital expertise offers us promising new business opportunities, as well as making an active contribution to climate protection.

Clear commitment to the principles of the Global Compact

In January 2024 we joined the world's largest initiative for responsible and sustainable corporate governance, the United Nations Global Compact, to further underscore our commitment to sustainable business practice. We have given a clear and resounding affirmative to participating in this international network and to committing ourselves to the ten global principles of the Global Compact, including human and labor rights, diversity, and anti-corruption.

As a result, our corporate culture at Voith continues to develop actively: We want our employees to work in an environment where dependability, open and trusting cooperation, equal pay for equal work, and a fair, market-based remuneration system are a matter of course, alongside customer and results orientation, agility, and innovative drive.

Our framework for executives is the foundation stone of our corporate culture – and is built on our values, defined behavioral competencies, and leadership qualities. Another key aspect is the topic of Diversity & Inclusion. This is demonstrated, for instance, by the recent success of our emerging talent program participants, who were ranked in the Top 10 in the Diversity Charter's Diversity Challenge.

Taking responsibility also means demonstrating social commitment: We support many projects focusing on science and research, as well as careers and education at our locations – with a particular emphasis on children, adolescents, and young adults. The #VoithCares Program together with the Hanns Voith Foundation support charitable projects around the world where Voith employees can also volunteer in their spare time.

This Sustainability Report, published for the fourteenth time in a row, documents our measurable contribution to the sustainable development of our company, society, and the environment. It is and it remains our goal – as well as our obligation as a value-oriented and long-term family business – to operate in an environmentally friendly, fair, and sustainable way.

I very much hope you enjoy reading our Sustainability Report 2023 and look forward to engaging in constructive dialog with you.

Dr. Toralf Haag
Voith Group President & CEO

1. Strategy and integrity

1.1 Our profile

The Voith Group is a globally active technology group. With our broad portfolio of production plants, products, industrial services, and digital applications we set standards in the Energy, Paper, Raw Materials, and Transport & Automotive markets. At Voith, we understand business success as a long-term undertaking. From the very beginning, the way in which we conduct business has always been geared toward sustainable, profitable growth. Our shareholders, our Supervisory Board, and the Voith Corporate Board of Management are jointly committed to economically, ecologically, and socially sustainable corporate development. Clearly defined values serve as our compass – and sustainability is one of them.

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We develop sustainable technologies to preserve and improve the fundamental viability of future generations. At the same time, we secure the long-term future of Voith as a company by ensuring our stability and financial independence through profitable growth, thus reconciling our business success with our responsibility toward society and the environment.

Overview of the Group

Voith is represented worldwide through locations in over 60 countries and maintains a comprehensive network of production, service, and sales units on every continent.

Voith GmbH & Co. KGaA, headquartered in Heidenheim an der Brenz, Germany, is the operative management holding company as well as the parent company of the Group; the Group's core corporate functions are also concentrated within it. The Corporate Board of Management of Voith Management GmbH is responsible for the strategic and operational management of the Voith Group. Voith Management GmbH, which like Voith GmbH & Co. KGaA is 100 % family-owned, manages the businesses of Voith GmbH & Co. KGaA as the personally liable shareholder. The Corporate Board of Management of Voith Management GmbH is appointed by the Shareholders' Committee of Voith Management GmbH. The Supervisory Board is the supervisory body of Voith GmbH & Co. KGaA.

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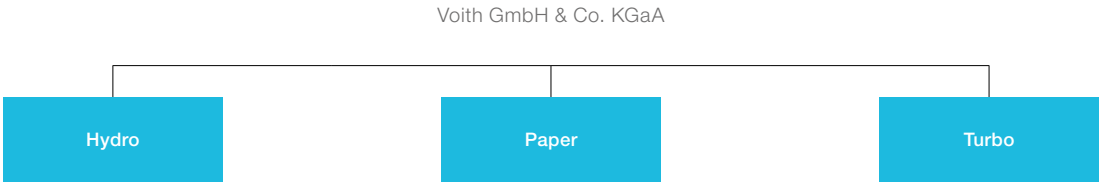
Voith's operating business is organized into three Group Divisions:

The **Hydro Group Division** is a leading full-service provider and reliable partner for equipping hydropower plants. It develops customized, long-term solutions and services for large and small hydropower plants around the world. Its product and service portfolio comprises the entire lifecycle and all major components for large and small hydropower plants: from generators, turbines, pumps, and automation systems to spare parts, maintenance, and training services, as well as providing digital solutions for intelligent hydropower generation.

The **Paper Group Division** is a leading full-line supplier and pioneer in the paper industry. Thanks to constant innovation, Voith Paper continually optimizes its paper production process, enabling resource-saving, efficient production.

The **Turbo Group Division** specializes in intelligent drive systems and customized service solutions. With smart and innovative products, Voith Turbo offers maximum efficiency and reliability. Customers from numerous industries such as oil and gas, energy, mining and mechanical engineering, marine technology, rail, and commercial vehicles rely on Voith's cutting-edge technologies and digital solutions.

Organizational structure
Group Divisions of the Voith Group



Management system

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The key financial performance indicators used by the Voith Group are the development of orders received and sales revenue, as well as EBIT (Earnings before Interest and Taxes) and ROCE (Return on Capital Employed).

Business development in 2022/23

In the 2022/23 fiscal year, the Voith Group performed satisfactorily in a challenging environment and proved to be in robust shape both operationally and financially. All of the Voith Group's key performance indicators increased in the reporting year, while almost all growth and earnings targets were exceeded.

Orders received by the Voith Group rose by 19 % to € 6.14 billion. Group sales rose by € 625 million or 13 % to € 5.51 billion.

EBIT rose by 22 % to € 245 million. Return on sales improved to 4.4 % (previous year: 4.1 %) and ROCE rose to 12.1 % (previous year: 10.5 %).

The often considerable increases in material prices, transport costs, and wages necessitated significant countermeasures. These inflation-induced cost increases were successfully counteracted by efficiency gains, general cost discipline, and differentiated procurement strategies and contract drafting.

In the reporting year, the Voith Group's income statement was characterized by noticeable growth in overall operating performance and an improved cost structure with a significantly reduced materials ratio. Overall, we succeeded in significantly increasing our operating results and Group net income after taxes: At € 73 million, Group net income after taxes was also significantly up on the previous fiscal year (previous year: € 30 million).

Fact base
Key economic indicators, international focus

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The Voith Group's asset and financial position remains very sound. Despite moderate corporate acquisition activity, net liquidity is at an improved level and amounted to € -182 million at the end of the reporting year (previous year: € -233 million).

In the 2022/23 fiscal year, Voith once again made significant investments in the future. We increased our investment in property, plant and equipment, and intangible assets from € 143 million to € 188 million, and increased our Research and Development (R&D) expenses from € 213 million to € 232 million. The investment ratio, measured against Group sales, rose to 3.4 % in the reporting year (previous year: 2.9 %).

Independence of members of the Supervisory Board and the Shareholders' Committee

The Supervisory Board of Voith GmbH & Co. KGaA is constituted in accordance with the German Codetermination Act (Mitbestimmungsgesetz, MitbestG). Accordingly, six of its twelve members represent the shareholders and six represent the employees.

Voith follows the recommendations of the German Corporate Governance Code (DCGK). This defines a Supervisory Board member as independent "if they have no personal or business relationship with the company or its Management Board that may cause a substantial – and not merely temporary – conflict of interest" (DCGK as of April 28, 2022, Recommendation C.7). In accordance with the regulations set out in the Code, this does not apply to employee representatives: As employees, they are at least partly subject to the Management Board's right to direct as dependent employees, and are explicitly elected to represent the interests of the employees on the Supervisory Board under German law.

Based on these regulations, four of the six shareholder representatives on the Supervisory Board of Voith GmbH & Co. KGaA are to be regarded as independent. The two non-independent members are members of the Management Board of the general partner of a controlling shareholder.

In accordance with Recommendation C.10 of the DCGK, the Chair of the Supervisory Board is independent, as are the Chairs of the Audit Committee and the Nomination Committee.

Under the terms of the Articles of Association, an external member must always chair the Shareholders' Committee of Voith Management GmbH; the Chair of the Shareholders' Committee generally also chairs the Supervisory Board. An external member in the aforementioned sense is a person who is neither a direct nor an indirect shareholder of the company, nor the legal representative, nor spouse of direct or indirect shareholders of the company, nor the legal representative of companies that are affiliated with direct or indirect shareholders of the company within the meaning of Section 15 of the German Stock Corporation Act (Aktiengesetz, AktG). Furthermore, external members should be individuals, who are particularly well suited to this office by virtue of their position and skills, preferably with a proven track record in company leadership.

1.2 Sustainability strategy and organization

Sustainability as a core objective

As a family-owned company, Voith is particularly committed to environmentally responsible, fair, and successful business practices over the long term. Our objective is to make a demonstrable and lasting contribution to the sustainable development of the company, of society, and the environment.

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Industrial sustainability is our business model. This enables us to play a decisive role in achieving a climate-neutral industrial society while at the same time securing our growth. Our strategic focus on sustainable technologies sets the course for the further development of our product portfolio in our existing core business, as well as for our investments in new business areas and markets.

With our corporate values and the guidelines we derive from them, we ensure that Voith operates according to the same business principles worldwide and continues to develop the same global corporate culture. Our Voith Code of Conduct (CoC) defines how we deal with our customers and business partners, as well as how we work together within the company.

We systematically implement our Sustainability Strategy and have defined six key fields of action in this context: sustainable corporate governance, responsibility for our products, our supply chain, the environment, society, and our employees.

In defining and implementing our Sustainability Strategy, we comply fully with our corporate duties within the framework of applicable laws and international standards. In addition, we are guided by the principles of the UN Global Compact and the UN Sustnable Development Goals..

The Declaration from the Corporate Board of Management of Voith Group of January 2024 underpins the corporate actions of our organization in relation to sustainability.

High-performance sustainability organization

At Voith we understand sustainability as a Group-wide responsibility that is implemented by the Corporate Board of Management as well as the corporate functions and Group Divisions, thus permeating the entire organization.

Fact base
Employee sustainability training

We are convinced that a topic as comprehensive as corporate sustainability can only be successfully realized in close and continuous cooperation between all the different departments and regions. We therefore expect all our employees to take personal responsibility in line with the sustainable development of the company and Voith's corporate values.

Our responsibility does not stop at our factory gates: Together with our suppliers, we are also addressing essential environmental, labor, and human rights requirements in our purchasing processes.

The Corporate Sustainability central function defines the framework for our strategic orientation and determines how we organize sustainability at Voith. It reports directly to the Chair of our Corporate Board of Management, and defines the instruments and methods required in the Group to measure and steer our sustainability activities, including the associated reporting tools.

Together with the specialist departments, the Sustainability Department develops strategies and measures to raise our sustainability performance and monitors their implementation. It is also responsible for internal and external reporting, and coordinating sustainability-related communication tasks, including in particular the central stakeholder dialog with our internal and external stakeholders.

As the central sustainability organ, Corporate Sustainability is responsible not only for strategic sustainability management but also for Ecological Business Management (EBM) and decarbonization. This includes tasks such as corporate carbon reporting and developing, steering, and monitoring the successful implementation of Voith's climate protection strategy in close cooperation with the Group Divisions and other corporate functions. To meet this major challenge, we committed to the Science Based Targets initiative (SBTi) in December 2023, and in the 2023/24 fiscal year we are currently engaged in developing a new climate protection strategy.

Stakeholder dialog and transparent communication

Continuous exchange with our internal and external stakeholders is of vital importance to us and we reflect on our sustainability performance in a continuous stakeholder dialog. We regularly adapt our Sustainability Strategy to align with current circumstances and assess the impact of our business activities in sustainability terms, as well as the risks and opportunities that arise for our company as a result.

Our key stakeholders include the company owners and supervisory bodies, employees, works councils, customers, suppliers, rating agencies, and investors, as well as the local population at our locations, business associations, academia, authorities, politicians, non-governmental organizations, the media, and interested members of the public.

We inform our stakeholders transparently, comprehensively, and in a target group-specific manner, for example in the context of our annual Sustainability Report.

Targeted risk management

To safeguard the company against risks that could threaten the existence of the Group or its companies, we began introducing Group-wide risk management guidelines over 20 years ago, from which our current mandatory risk management system emerged. It is organized on a decentralized basis but is centrally monitored and coordinated. A Group Directive defines the principles and responsibilities of risk management, which also incorporates potential climate-related and environmental risks. The basis for this is a procedure for identifying, assessing, and responding to risks and opportunities, which is integrated into the multidisciplinary, Group-wide risk management process. With regard to the probability of occurrence and extent of damage, potential climate and environmental risks can also be broken down into risk classes.

Voith distinguishes five categories of risk:

1. Strategic risks
2. Financial risks
3. Operational risks (process risks, infrastructure risks, production risks, environmental and health risks)
4. Performance risks (contractual risks and technical risks)
5. Compliance risks

The Voith Risk Catalog is the starting point for the risk identification process. Each of the respective levels of the company (Operating Unit, Division, and Group) must analyze each risk area and identify whether any potential risk sources are to be found. A list with definitions of the risk areas and relevant examples can be found in the Risk Assessment tool. The time horizon of the respective risks is also included in the analysis.

Four-stage risk monitoring process

Our systematic risk management process comprises of risk identification, risk analysis and assessment, risk management, and risk monitoring and reporting. As part of risk identification, individual risks are recorded and documented at all levels of the company and across all functional areas based on the Voith Risk Catalog. These risks are analyzed and evaluated, and the respective risk potential is calculated. This data is then used by management in its risk management to decide whether risks should be avoided or reduced through suitable measures, transferred through contracts, or carried through process improvements and controls. As part of risk monitoring and reporting, performance risks with a high-risk potential, all measures taken, and the general risk situation are reported to the Corporate Board of Management on a quarterly basis. The general risk situation, also relating to further risk types, is also a regular item on the agenda at Advisory Board meetings of all business units. Risks that threaten the existence of the company are communicated on an ad-hoc basis to the next highest organizational level up to the Corporate Board of Management.

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Materiality analysis and key topics

Our assessment of the materiality of sustainability topics is largely based on the results of the 2018 stakeholder survey, which has since been continuously updated and adjusted after direct dialog with and feedback from our stakeholders, particularly our employees, customers, and industry associations. The 2018/19 stakeholder dialog also included an impact analysis: In this analysis, Voith has the greatest impact on the economy, society, and environment in the Products (30 %), Sustainable Corporate Governance (24 %), Employees (21 %), Environment (15 %), and Supply Chain (10 %) fields of action.

For the 2023/24 fiscal year, we have set ourselves the goal of comprehensively revising and updating our materiality analysis, incorporating the results of our stakeholder surveys from 2018/19 and adding new aspects.

Stakeholder survey results
The three key aspects per field of action are:

Sustainable corporate governance
1. Legally compliant, value-aligned corporate management
2. Business development with a long-term focus
3. Transparency of business practices

Environment
1. Efficient use of resources
2. Reduction of greenhouse gas emissions
3. Minimizing environmental impacts

Employees
1. Strategic personnel development and further training
2. Ensuring safe working conditions
3. Promoting a healthy work-life balance

Products
1. Innovative, high-quality products and services
2. Product resource efficiency
3. Partnership-based cooperation with customers

Supply chain
1. Building and maintaining cooperative, long-term supplier relationships
2. Ensuring quality, service, and profitability
3. Control mechanisms for compliance with laws, and environmental and social standards in the supply chain

In the 2022/23 fiscal year, we expanded this impact perspective to include a materiality assessment from a financial perspective. In consultation with internal experts, potentially important topics were assessed against the background of resource use and relationship dependency. The topics that are considered relevant from both perspectives and are therefore doubly material according to CSR-RUG, form the basis of our voluntary non-financial statement. The important topics from an impact perspective remain the guiding principles for this report.

Comprehensive ESG performance review

We measure the success of our sustainability performance with the help of the ISS ESG and EcoVadis ratings. Both external ratings are then used to obtain an independent and comprehensive review of environmental, social, and governance (ESG) performance that is confirmed by third parties. We believe that the expertise and reputation of these ratings guarantee a critical yet opportunity-oriented, expert company assessment in the area of ESG. Furthermore, we see strategic advantages in working with financial institutions, customers, and suppliers.

Since 2018, Voith Group has been one of the top-rated companies in the Mechanical and Plant Engineering sector worldwide in the ISS ESG rating – now for the sixth year in a row. In 2021, Voith was rated B- for the first time by the ISS agency and went on to repeat this rating in 2022 and again in 2023. The new rating will be conducted in the fourth quarter of 2024.

In the 2022/23 fiscal year, we received a Silver Award in the EcoVadis rating for the first time, improving our previous Bronze rating as a result of our improved sustainability performance. The new rating will be conducted in the first quarter of 2024.

1.3 Values and compliance

How we see ourselves

Voith unites the tradition of a family-owned company with the needs and culture of a global organization. Clear values determine the way we conduct our business: We are ambitious, innovative, reliable, fair, and sustainable. Our values and the guidelines we derive from them help ensure that Voith acts in alignment with a unified set of business principles worldwide and operates consistently by this philosophy.

- **Ambitious:** We embrace challenges and set ourselves ambitious goals that enable us to grow both as individuals and as an organization.
- **Innovative:** We want to turn ambitious ideas into innovative technology. To do this, we listen carefully, examine ideas closely, and think outside the box. This way we experience at first hand the way in which the world and our customers are changing, creating solutions that add value, and setting new standards in our markets.
- **Reliable:** As Voith employees, we constantly strive to earn the trust of our customers and partners by only making promises we can keep. This enables us to build sustainable, long-term business relationships.
- **Fair:** We meet all our stakeholders with respect, sincerity, honesty, and modesty. This is not a question of mere compliance with rules and regulations, but constitutes our underlying philosophy.
- **Sustainable:** We are mindful of our responsibility to society and the environment in everything we do. We want to use our technical innovations to contribute to global growth and prosperity. As a family-owned business, we strive for lasting financial independence.

The Voith Compliance Organization

The Voith Group has maintained a comprehensive Compliance Management System (CMS) for many years now. Voith is currently engaged in expanding its CMS to better meet future statutory compliance requirements.

The Voith Compliance Committee is responsible for drawing up, developing, and implementing our Compliance Program, revising compliance regulations, and coordinating relevant training courses. The committee meets monthly and comprises the Head of Group Legal Affairs (Chair), as well as the

respective Heads of Group Human Resources Management and Group Auditing. The Chair of the Compliance Committee reports directly to the Corporate Board of Management of Voith GmbH & Co. KGaA and to the Audit Committee of the Supervisory Board. The CFOs of the Group Divisions serve as Compliance Officers for their respective divisions. In addition, there are Compliance Officers in every Group company; usually the CFOs perform this function in addition to their other duties. Depending on the number of locations and Operating Units the respective Group company maintains, several individuals may also hold this role jointly to ensure that the Compliance Officers are as close as possible to the operating business. Within their area of responsibility, the Compliance Officers are responsible for implementing Voith's Code of Conduct (CoC) and also serve as points of contact.

Code of Conduct binding for all employees

As early as 1927, Voith committed to the following business principles: "In the business world one must be ethical, decent, and honest. If a contracting party or competitor behaves unfairly, this does not give us the right to deviate from this principle." These principles still govern the way we conduct business today.

The Voith Code of Conduct defines the way we act toward customers and business partners, as well as how our employees behave toward one another within the company. It sets out clear standards that are aligned with established external charters and principles.

Code of Conduct

We revised our Code of Conduct in the 2020/21 fiscal year. New content was incorporated into the Code, which came into effect upon publication in October 2021. The Code of Conduct is available online in a total of 25 languages.

Key principles of the Code include:

- Upholding fundamental human rights, fair working conditions, and rejecting child and forced labor
- Protecting the lives and health of our employees, protecting the environment, and sustainable business practice
- Setting high quality standards for our products and the qualifications of our employees
- Respectful treatment, tolerance, and safeguarding equal opportunities
- Responsible handling of information, regarding confidentiality, data privacy and information security, insider knowledge, and due reporting obligations
- Law-abiding behavior toward the public, in particular the prevention of money-laundering and full compliance with import and export control regulations, and tax obligations
- No corruption and bribery: neither offering, granting, or demanding bribes, nor accepting unfair advantages
- Respect for the rules of fair competition
- No anti-competitive agreements
- Safeguarding our own patents, industrial intellectual property, and trade secrets, and respecting those of third parties
- Full transparency in donations and sponsorships
- No undue preferential treatment of particular suppliers or service providers
- Avoiding conflicts of interest

The Code provides specific information on correct conduct and points of contact. By signing their employment contract, all Voith employees confirm that they have taken note of the Code, insofar as the CMS applies to the Group company that is employing them. In doing so, they undertake to comply fully with all prevailing legislation and the internal regulations in force at Voith – right across our global Group and at all hierarchy levels. Breaches of the Code are met with disciplinary measures. We constantly update our rules and procedures and adapt them to meet current requirements.

GPC
General Purchasing Conditions

In conjunction with the General Purchasing Conditions (GPC), the Code of Conduct defines Voith's basic understanding of partnership-based cooperation with suppliers and sets out guidelines on dealing with compliance issues, as well as environmental and social standards in the supply chain. Through the GPC, the Code of Conduct thus becomes an integral part of our contractual relationships with suppliers.

Chapter
Products and supply chains

Regular training on compliance topics

All Voith employees with personal access to the Voith IT network are required to update their knowledge of compliance issues and the Code of Conduct via our e-learning programs every three years. For IT system reasons, some Group companies conduct independent e-learning programs. Through their successful participation, employees document that they are familiar with the Code of Conduct and have understood the corresponding regulations. Program participants are tested on the knowledge they have learned during the training to ensure they have absorbed and understood it fully. Approximately 98 % of our employees with personal access to the Voith IT network have completed our programs on Anti-Corruption and Antitrust Law, as well as on Leadership and Employees. It is the line manager's responsibility to instruct employees without such computer access on these topics and ensure that their knowledge is kept up to date.

A Group Directive also stipulates that shortly after their appointment, Compliance Officers receive centralized training from members of the Compliance Committee, among others. In addition, all managers on the upper management levels are centrally prepared for compliance-specific tasks in a one-day training course, entitled Compliance at Voith. Since the 2022/23 fiscal year, Compliance Officers must repeat this training course at least once every five years.

Additionally, Voith employees who require special compliance expertise for their specific working area also receive specialist training. This is mandatory for both Voith Group Purchasing and Group Sales employees. These central events are organized by the Training Departments of the four regions EMEA, APAC, and North and South America. The training courses are led by a member of the Voith Law Group and a Compliance Officer. Typically, these three-module training courses are offered online over three consecutive days. The duration of each of the three modules is set at 120 minutes plus a break of 15 minutes. In addition, face-to-face training is offered at our Heidenheim location and at other locations if requested by an Operating Unit.

Following an initial introduction, the Compliance at Voith training course covers topics such as white-collar crime and fraud, measures to prevent corruption and antitrust violations, forced labor and human trafficking, as well as correct conduct during inspections and investigations.

After their successful participation, employees in these areas are required to refresh and update their knowledge every three years in an e-training course that includes numerous case studies. In addition, decentralized compliance training courses are held in Accounting and Master Data Management, as there are specific compliance risks involved when releasing invoices or changing bank details, for example. These training courses are conducted by the Heads of the Accounting Departments in the Global Business Services (GBS) Divisions of EMEA, APAC, and North and South America, as well as by the Head of the Master Data Management Department. While the decentralized training courses in Accounting do not follow a prescribed cycle, the training courses in Master Data Management are held on a regular schedule.

Fact base
Compliance training

In the reporting year, we held regular face-to-face and online training sessions on compliance issues for managers and employees in Sales and Purchasing. The 18 events were attended by 155 employees (previous year: 18 events with 372 participants).

Continual compliance reviews guarantee effectiveness

The Group Internal Audit Department examines observance of all compliance regulations in a routine risk assessment involving around 30 Operating Units annually. We work continuously to optimize our compliance organization and adapt it to new standards and regulations.

To ensure their full compliance, we issue our business partners with clear regulations and require them to submit a self-assessment. Our comprehensive Group guidelines stipulate that all Sales agents and sales-oriented consultants are audited at the start and at regular intervals during the business relationship. The audit covers topics such as corruption, money laundering, and violations of foreign trade law. Among other sources, it draws its comparative information from the database of an external service provider that systematically evaluates numerous sources globally. Information about (criminal) convictions or imposed sanctions, such as blacklisting, is also available via the database. A Group Directive makes the auditing of Sales agents and sales-oriented consultants mandatory; these Group guidelines also apply to recently acquired companies.

Chapter
Responsibility in the supply chain

No compromise against corruption

Voith will not tolerate any form of corruption or bribery. The Voith Code of Conduct explicitly stipulates that decisions on the part of our business partners may under no circumstances be influenced by gifts or invitations.

Gifts show our appreciation for our business partners. However, they are only permitted if they comply with the rules of general courtesy and follow the accepted business traditions of the respective cultural environment. Furthermore, such gifts must not be suited, due to their value or in any other respect, to influencing the actions or decisions of the recipient or to place the recipient under any form of reciprocal obligation. The value limit for gifts is defined in the Group Directive on Gifts, Hospitality, Events. In principle, a value limit of € 35 applies, which may only be exceeded in justified cases. Gifts of money are strictly prohibited. All other forms of remuneration by Voith must also be reasonable and justifiable in terms of both reason and amount. In line with this principle, Voith employees may only accept occasional gifts of low material value.

To ensure a consistent approach to combating corruption and other illegal or sanctionable behavior, all Compliance Officers are required to maintain a clearly defined Risk Control Matrix that includes potential corruption risks for their Group unit, and to name and assess the risks identified. This structured process covers all Voith locations worldwide and newly acquired companies are integrated into the process as swiftly as possible. The results of all Group Divisions are aggregated and serve as a partial basis for centralized risk identification and internal compliance audits.

Our risk assessment is based on many factors, including the Corruption Perceptions Index (CPI) published annually by Transparency International. As our company maintains business relationships all over the world, special precautionary measures apply to high-risk countries, whereby the responsible Risk Management team decides on which measures should be taken.

Chapter
Responsibility in the supply chain

Integrity check of creditors
In addition, Purchasing conducts an integrity check when a new creditor with a purchasing volume of over € 25,000 is created. This check uses publicly available data to determine whether there have been any compliance incidents in the past, such as fraud, corruption, or child labor.

Group-wide complaints procedure and Whistleblower Scheme

In principle, anyone can address complaints to Voith or notify us of abuse or breaches of the Voith Code of Conduct or applicable law, our own employees included. Such instances can be reported to a variety of points of contact: a direct superior, an HR representative, the Compliance Officer of a Group company, the Operating Unit (OU) or Group Division, any member of the Compliance Committee, as well as to one of the five Group-wide Compliance Helpdesks. Staffed by local multilingual contacts and present in all the key Voith regions – APAC, North and South America, as well as EMEA with Austria and Germany – this system is available to both internal and external whistleblowers. Details on how to contact these points of contact are provided to all employees throughout the Group in an appropriate way, including via the Compliance intranet page. The Compliance Helpdesk and the Whistleblower Scheme are also available to all stakeholders via the Voith website.

Compliance Helpdesk and Whistleblower Scheme

An employee who has concrete evidence of a breach of the Code of Conduct and reports this suspicion in good faith has no reason to fear any detriment whatsoever. This right is laid down in our Code of Conduct. If necessary, Voith will take appropriate measures in each individual case to protect the employee reporting the suspected breach against any such detriment, for example in relation to career progression or bullying in the workplace. To the extent possible and permissible under law, Voith will maintain confidentiality regarding the identity of employees reporting a breach or suspected breach of the Code of Conduct and its guidelines. The same applies to the identity of employees investigating such a breach or suspected breach. We also follow up on complaints submitted anonymously via our Group-wide Whistleblower Scheme with the number and type of violations documented centrally. To ensure that the strictest confidentiality is maintained, information concerning the number and type of complaints is not disclosed to external parties as a matter of principle.

Fact base
Escalation channels and points of contact for complaints

Confidential treatment of information

Information security and protecting personal data are a top priority at Voith. Both topics are governed by corresponding Group Directives. Our employees are expected to display an appropriate awareness of security and a sense of personal responsibility.

There were no notifiable breaches of data security in the reporting period. The processes implemented at our Data Center in Heidenheim, Germany, are certified according to international standard of the the International Organization for Standardization (ISO)/International Electrotechnical Commission (IEC) ISO/IEC 27001.

Strict upholding of human rights

As a globally active Group, Voith upholds human rights as a matter of course. The framework for this is set out in the Voith Code of Conduct, which as a Group Directive is binding for all employees; recently acquired companies are integrated into this process as swiftly as possible.

Voith rejects all forms of human trafficking, forced labor, and child labor and has issued a corresponding Declaration in accordance with the UK Modern Slavery Act 2015, which is also based on the requirements of the UN Universal Declaration of Human Rights 1948, the California Transparency in Supply Chains Act 2010, and the Australian Modern Slavery Act 2018, among others. This Declaration is publicly accessible on the company website.

Declaration

We also ensure that our suppliers and business partners uphold human rights through our GPC. As part of this, we incorporate the assessments of our internal management systems such as the Risk Country List into our planning of measures. If a supplier violates these rules, we reserve the right to terminate the business relationship.

The German Act on Corporate Due Diligence in Supply Chains or, in short, Supply Chain Act (Lieferkettensorgfaltspflichtengesetz, LkSG) came into force on January 1, 2023. It obligates companies above a certain size and with a registered office or branch office in Germany to fulfill specifically defined statutory human rights and environmental due diligence requirements, and to anchor appropriate measures in their supply chains and in their own business operations.

The due diligence obligations comprise establishing an integrated risk management system and implementing specific preventative and remedial measures. This also includes setting up a reporting and complaints system and a regular reporting process.

Chapter
Responsibility in the supply chain

Voith rigorously implements these requirements. To prepare and analyze the necessary steps, a task force comprised of experts from various specialist areas including Purchasing, Compliance, Quality, Human Resources (HR), and Sustainability was set up in the 2021/22 fiscal year.

Taxation

As a globally operating company, Voith is subject to the tax laws of many countries. We follow a very clear path at Voith: 100 % compliance with all national and international statutory taxation laws and obligations. This is laid down in the Code of Conduct and the Group taxation policy, and is aligned with our corporate values and understanding of our social responsibility, which always includes fair and transparent cooperation with all relevant tax authorities.

Central Tax Department with global policy authority
Voith has implemented a Tax CMS that we adjust continually to meet evolving statutory processes and taxation framework requirements, as well as in response to other internal and external factors. In addition to various risk-appropriate management procedures, training courses and other measures are also carried out in the relevant areas, for instance on the topic of value-added tax (VAT).

Our central Tax Department has global policy authority to ensure full tax compliance across the whole Group. A complete list of the companies and countries in which the Group operates is set out in the consolidated financial statements in which Voith reports on its tax position.

Transfer prices within the company are always based on the Arm's Length Principle and comply with applicable laws. Voith follows the OECD (Organisation for Economic Cooperation and Development) standard and avoids implementing artificial structures that are created purely for taxation purposes.

Disclosure of tax positions
Voith reports in detail on its respective tax positions in the consolidated financial statements, in line with the requirements of the International Financial Reporting Standards (IFRS). These tax-related statements are audited in Voith's consolidated financial statements.

Fact base
Taxation

1.4 Responsibility for society

"Sustainable technologies for future generations" is our DNA at Voith. This also means that our company assumes responsibilities toward society as a good corporate citizen. We aim to actively shape the environment in which we operate as a Group, and this is why we are also involved in donations and sponsorships. We are particularly committed to promoting science and research in the field of sustainable technologies, as well as to the education and training of children, adolescents, and young adults. In promoting sports and culture, we are mainly involved in the locations where Voith has deep roots, thus contributing to an attractive living environment for our employees and their families.

Many of our employees are also privately involved in projects that are particularly important to them personally. As part of the #VoithCares campaign, Voith supports this commitment financially and promotes global projects that address digitalization, technology, innovation, decarbonization, and social issues. In the 2022/23 fiscal year, we gave financial support of € 1,000 each to 50 projects as part of the #VoithCares Program. These sponsored projects included the expansion of a school and a children's village in Uganda, support for the child protection association in Crailsheim, and for the "Heidenheim for Ukraine" initiative.

Homepage
#VoithCares

Clear organizational anchoring of our commitment – Group Directive sets the framework

Our social commitment is managed by Voith GmbH & Co. KGaA, headquartered in Heidenheim, Germany. Within the company, responsibility for Donations and Sponsorship is coordinated by Group Corporate Communications. Since 2008, our Group Directive on Donations and Sponsorship has defined the type and scope of our commitment and regulates the governing financial framework for our donations and sponsorships. In this way, we ensure that our donations and sponsorship expenditure is carried out in accordance with all relevant legal provisions, that it strengthens our company's reputation, and is a positive fit for our company's brand positioning.

Our funding priorities:

- Education, vocational training: promoting future generations
- Science and research: promoting sustainable innovations and technologies
- Social: supporting disadvantaged social groups and social institutions
- Sport, arts, and culture: local commitment at Voith's locations worldwide

Strict selection criteria, prescribed approval process, regular controlling

The Group Directive also sets out clear guidelines for selecting which projects to fund. For approval, all donations require strict compliance with the Voith Code of Conduct and all applicable laws. In addition, they must be compatible with Voith's DNA, corporate values, and corporate culture, with a focus on regional projects close to our global locations.

The Group Directive prohibits donations to political parties, comparable party-political organizations, and sponsorship of the activities of such parties and organizations. Donations to private individuals are also excluded. In addition, the Group Directive prescribes a clear approval process for donations and sponsorships.

Unless otherwise determined by the Corporate Board of Management, Voith's donations budget is based on the previous year's Earnings Before Tax (EBT). In the reporting year this was limited to 1 % of EBT. Internal controlling systems record our donation and sponsorship activities worldwide and across all Voith business units.

Once a year, the Head of Corporate Communications informs the Corporate Board of Management on the use of Donations and Sponsorship funds throughout the Voith Group. Individual Group Divisions or local Voith companies can also initiate and carry out their own support and sponsorship projects, provided they comply with the requirements of the Group Directive on Donations and Sponsorship and have been endorsed in the approval process specified therein.

Creating transparency: entry in the German Federal Parliament lobby register

We always consider our activities as a company within the context of societal developments. For instance, we participate in public debates and contribute our expertise to political decision-making. We are convinced that our specialist knowledge makes an important contribution to meeting the current and future challenges facing society in a positive way. What is more, we want to ensure that the legitimate interests and views of our stakeholders are represented in political and societal dialog.

Fact base
Membership of associations

Based on this understanding, we want to enable a comparison of opinions and positions through the targeted transfer of knowledge into politics, thereby supporting the practical implementation of projects and laws. Voith performs these tasks through its memberships in industry associations and other interest groups. In addition, we foster a direct exchange with multipliers.

Voith defines its corporate values and clear rules of conduct in its Code of Conduct. These include avoiding conflicts of interest and preventing and combating corruption. All employees are obliged to comply with the Code and are held accountable if they violate its principles.

Entry in the lobby register of the German Federal Parliament

The entry in the German Federal Parliament's public lobby register clearly identifies those Voith employees entrusted with representing its interests, the respective interests and projects themselves, and the ways in which Voith represents its own interests. In addition, the lobby register also creates transparency regarding public sector subsidies and donations from third parties. In the 2022/23 fiscal year, Voith did not receive grants, subsidies, or donations worth more than € 20,000.

Founded in 1953, the Hanns Voith Foundation forms the focus of our social engagement. With its slogan "Creating opportunities, shaping the future", the Hanns Voith Foundation regularly supports a large number of local and cross-regional initiatives, and is an important instrument for fulfilling our social, educational, and cultural responsibility to our workforce and to society as a whole. The Foundation supports projects through the #VoithCares Program, for example, as well as further projects initiated by employees, for instance in Brazil and China.

Hanns Voith Foundation

Success in business carries an obligation and the Voith family has always understood this. Alongside the needs of our customers, the welfare of our employees and responsibility to society have always been close to the Voith family's heart. Dr. Hanns Voith (1885-1971), who headed the company for almost 60 years, played a major role in the company's societal engagement. Founded in 1953 to institutionalize community involvement within the company, the independent, non-profit Hanns Voith Foundation continues Dr. Voith's extensive engagement today.

Hanns Voith Foundation

The Hanns Voith Foundation has been an important instrument ever since in enabling Voith's shareholders and the Voith Group to demonstrate their responsibility to society and to their employees in the areas of social, educational, and cultural policy. The Foundation supports projects in training and education, science and research, as well as in culture and the environment. It also promotes measures that support international understanding and developmental aid, as well as projects based on the teachings of Rudolf Steiner and similar modes of thought.

For instance, the Hanns Voith Foundation supports the training and education of underprivileged and gifted young people from the Heidenheim area, as well as underprivileged and gifted employees of our Voith Group companies and their children. This includes contributions to enable them to study and complete science, engineering, or economics degrees at universities and technical colleges.

Our engagement activities in the reporting period

Fact base
Donations and sponsorship, Hanns Voith Foundation donations and sponsorship, financial contributions to political parties and party-political organizations

Voith invested around € 3.13 million in social engagement activities in the reporting period (previous year: € 2.79 million). Of this figure, € 1.53 million was in the form of donations, with € 1.41 million in cash donations and € 0.12 million in donations in kind. Sponsorship measures accounted for € 1.6 million. We spent the greatest share on 69 projects in the education sector (25 %) and 51 social projects (30 %), followed by 29 sports projects (40 %) and 22 cultural projects (5 %).

Local priorities in our sports commitment

We believe that supporting local initiatives is an investment in the quality of a location, which benefits the region's citizens and our employees. Through this, we intend to increase the attractiveness and recreational quality of our locations for our employees. This is why Voith sponsors professional and amateur sports, and assists various sports clubs and events worldwide, with a particular focus on Heidenheim, Germany.

For instance, Voith is a long-standing supporter of the professional soccer club 1. FC Heidenheim 1864 e.V. We also sponsor the fencing center at the Heidenheim Sports Association, Heidenheimer Sportbund 1846 e.V. (HSB) and the local HSB baseball team. Together with its sponsorship partners, Heideköpfe Heidenheim baseball club and Heidenheim fencing center, Voith once again organized camps as vacation care for the children of Voith employees in the reporting year.

Multifaceted engagement for education

We support kindergartens, schools, and universities around the world, as we firmly believe that only a good education and proper training can give people the basis they need for optimal personal development. This firm conviction has a long tradition with us at Voith.

Knowledge factory

An education, vocational training, and further education offensive is required to counteract the prevailing shortage of skilled workers. We are actively involved in pushing this forward – also as a partner and founding member of Wissensfabrik, Unternehmen für Deutschland e.V. The aim of this non-profit initiative is to get more children interested in science, technology, engineering, and mathematics (STEM) subjects and foster entrepreneurship in Germany.

Promoting culture at our Heidenheim location

Vacation camp for children

We want to give as many people as possible access to cultural life. In this reporting period, we once again provided financial support to various institutions in Heidenheim, including the Opera Festival. For the second time, we organized our own performance, for which tickets were mainly made available to Voith employees. We also organized a vacation camp for children, the Kunst Kids Camp, in Heidenheim.

Commitment to integration

Voith has stood for global social commitment that improves living conditions and promotes intercultural exchange for many years. For instance, Voith is one of the initiators of the German industry integration initiative “Wir zusammen” (Us together), dedicated to helping refugees integrate into German society. Voith provides places on a vocational training course for young refugees. Furthermore, Voith encourages young people in gaining intercultural experience at an early stage in cooperation with the non-profit youth exchange organization, AFS Interkulturelle Begegnungen e.V. (AFS Intercultural Exchange). For this reason, with the support of the Hanns Voith Foundation, Voith will once again award partial scholarships for a stay abroad in the 2023/24 academic year, preferably in Brazil, China, or the USA. Scholarship holders will spend the 2023/24 academic year with a volunteer host family and Voith will contribute up to € 4,500 per scholarship holder.

2. Employees

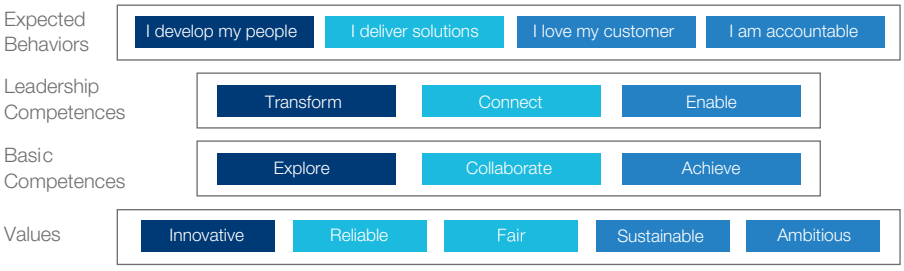
2.1 Management approach

Our greatest strength at Voith lies in the skills and motivation of our workforce. To enable our employees to develop their potential even more fully, we create an environment for them that is highly innovative and agile, focused on customers and results, and based on reliability paired with open and trusting cooperation.

Equal pay for equal work is a matter of course for us. The same applies to paying collectively agreed salaries at all our locations that are bound by collective bargaining agreements. Moreover, we use the Wilson Towers Watson Grading System to ensure a fair system of remuneration in line with the market.

Against this backdrop, we continue to take a targeted approach to developing our corporate culture, a task in which the behavior of our managers plays a central role. This is why we consider the topics of leadership and culture as a single entity and have developed a corresponding framework to guide our employees and managers (as illustrated below).

Sustainable technologies for future generations



Voith's corporate values underpin our corporate culture. It is from these values that we derive the competencies we require and foster in our company. Fundamental competencies such as the willingness to break new ground and learn from mistakes (Explore), to generate ideas and solve problems together (Collaborate), and to take personal responsibility and accomplish objectives (Achieve), go hand in hand with core leadership skills. It is therefore our managers' responsibility to promote employee willingness to initiate and implement change to facilitate innovation (Transform). To this end, we work on creating an environment where transparency and openness (Connect) prevail, and in which employees can succeed (Enable). These competencies are intended to enable our managers and employees to act in accordance with our Expected Behaviors, which ask each and every employee to implement – and which they should also require of their colleagues.

Sustainable organization of HR services

We have continued to digitalize our HR processes over recent years to meet our employees' needs as quickly, comprehensively, individually, and efficiently as possible.

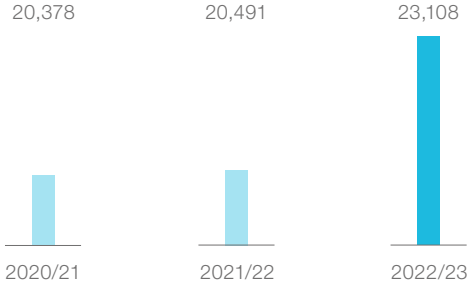
Using modern service platforms (SAP SuccessFactors and UKG PeopleDoc) employees can obtain information on all topics relating to their employment contracts. If they wish, they can also trigger the appropriate digital service, for instance applying for special leave or revising their development plan with their manager. A growing number of these services are offered on a self-service basis via systems that are always accessible and are highly intuitive to use.

HR services are provided via six service lines (Recruitment; Further Education/Training; Global Secondments; Payroll Accounting; Company Pension Plans; Document Management) in four regional HR Global Business Service Centers. This structure ensures that the available expertise can be deployed correctly.

2.2 Voith as an employer

Voith's business model is geared towards the long term – a principle that includes our employment policy. As a reliable employer, we wish to live up to our responsibility as a family-owned company. We offer our employees job security and career prospects, at a time when the external conditions for their employment are subject to a variety of changes.

Number of employees
Headcount



Fact base
Workforce structure, employees by employment type

Safeguarding the rights of all employees

Voith offers its employees fair working conditions that comply with all statutory requirements. This principle reflects Voith's fundamental commitment to upholding global human rights, a commitment that is further expressed in the Voith Code of Conduct that applies across our global Group. A section of the Code is dedicated to the topics Respectful Interaction, Tolerance, and Equal Opportunities.

Further sections of the Voith Code of Conduct address how cooperation between different parties at Voith should be structured while upholding the rights of all employees. As a matter of course we prohibit all forms of forced and child labor. In structuring working conditions at Voith, beyond directly applicable laws we are guided by the principles of the International Labour Organization (ILO) as well as further national and international organizations. Furthermore, we view trusting collaboration with employee representatives as a key prerequisite for our company's long-term success. The framework for this is set out in the Code of Conduct and the Group Policy, which Voith employees must adhere to upon signing their employment contract. In these documents we explicitly commit ourselves to not obstruct lawful employee representation in any form, such as obstruction of freedom of association or collective bargaining agreements. Breaches of these regulations can be reported via the grievance procedures of our Whistleblower Scheme.

Chapter
Values and compliance

Secure and transparent employment relations through collective agreements
We offer our employees working conditions that in many instances exceed the statutory requirements. Most of the employment contracts of our global workforce are covered by collective bargaining agreements. These give our workforce security and clarity regarding pay, working hours, and vacation entitlement. Employee representatives are always involved in discussions between the Corporate Board of Management, local HR departments, and employees. At numerous Voith 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.

Involvement of employee representatives in fundamental decision-making
In Germany, in addition to the respective local Works Council committees, a General Works Council operates at company level, while a Group Works Council is in place for the Voith Group. Furthermore, for companies within the European Union (EU) there is a European Works Council, the Euroforum, at Group level.

The respective Works Council committees and their members represent the interests of the workforce vis-à-vis the company. They serve as employee contact points, to which employees can refer perceived infringements of their rights, for example.

Our Corporate Board of Management or the local management team communicate fundamental changes to the committees and employees in a timely and proactive manner. Voith uses various communication channels to do so, in particular our intranet, video and telephone conferencing facilities, and written notices.

Collective agreements to safeguard locations in Germany
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 monitored by the respective location's Works Council. This is exemplified by our legally binding collective bargaining

Fact base
Details on upholding the rights of employees, measures for socially responsible restructuring and job security

agreements to safeguard Voith locations in Germany, namely those in Heidenheim, Sonthofen, and Crailsheim. By refraining from making operational redundancies, we implement the necessary workforce reductions in the most socially responsible way possible.

In addition to the employee representatives mentioned above, there are various committees, networks, and employee advocacy groups at Voith, all of which comply with regional legislation. Some of these were initiated by the employees themselves. Examples include the Representative for Severely Disabled Employees, the Trainee Council, the Senior Executive Representation Committee, the Supervisory Board set up in accordance with the 1976 German Codetermination Act at Voith's head office, and the Voith Women's Network.

Performance-based and market-driven remuneration

Voith ensures fair and market-driven remuneration for the work performance of all employees. To this end, we rely on an internationally standardized job evaluation system, unless already covered by a country-specific evaluation system. This ensures market-based renumeration and salary development, in addition to a fair and transparent evaluation of roles, for example using country-specific salary benchmarks.

Fact base
Expenditure for employees

The analyses currently available to us, especially for our core countries of Germany, the USA, China, and Brazil, confirm this. Individual remuneration is based exclusively on the requirements of the position, professional qualifications, and performance. Differentiation of individual remuneration based on origin, gender, religion, or other personal characteristics is not tolerated at Voith.

Diversity in unity

Voith employs people of all genders and numerous ethnicities, who are at different stages in their career, and bring with them diverse life experience. We firmly believe they should all have the same opportunities at Voith. With this purpose in mind, we signed the German Diversity Charter in October 2018, committing ourselves to promoting a culture of appreciation and creating a working environment that is free from prejudice. This aspiration is supported by our Diversity and Inclusion (D&I) program, which has been continuously developed since its introduction in 2012/13.

We understand diversity as recognizing and embracing the uniqueness of our employees in the aspects of sexual identity, age, nationality and ethnic origin, skin color, language, religion, education and professional experience, as well as other personal differences, such as family status, social background, beliefs, health status, and physical and mental abilities. We are convinced that these multifaceted dimensions, combined with varied experiences, talents, and strengths engender a diversity of ideas and thereby enable an inspiring and innovative corporate culture to arise. Inclusion stands for the appreciation of this kind of culture – through open, respectful cooperation that enables every person to develop their potential freely and contribute different perspectives, ways of thinking, and approaches.

Internationality – more than just an aspiration for Voith

Our company's international nature is reflected in our employment structure: Employees from 110 different nations work at Voith, and the Voith Senior Management Circle as our top management level also has an international composition, with 88 members from eleven countries. Voith deliberately promotes cultural diversity, thereby enhancing international cooperation and mutual understanding at all levels of our company. In the past fiscal year, 83 employees were abroad on international secondments. These secondments enable employees from different regions and of different nationalities to enrich their international careers and the company as a whole. Moreover, we offer our employees intercultural training and language courses to promote their knowledge, tolerance, and communication skills.

A clear position against discrimination and for equal opportunities

As an internationally operating company, Voith can only be successful if our working environment is underpinned by equal opportunity, as well as by mutual respect and appreciation. Our Code of Conduct takes a clear position against discrimination toward our employees and business partners.

Chapter
Values and compliance

The Voith Compliance Organization monitors the implementation and enforcement of our Code of Conduct. Reports of violations of the Code are recorded and tracked via the Group-wide grievance procedure. In addition, there is a dedicated Diversity and Inclusion (D&I) email address that employees with complaints or requests for assistance can use to contact the Voith D&I team.

The aforementioned principle of zero tolerance for discrimination is binding for all employees and is translated into specific behaviors by the Corporate Board of Management in our Diversity and Inclusion Declaration to ensure equal opportunities for everyone in the company.

Diversity and Inclusion Declaration

As formulated in the Declaration, this principle applies regardless of age, gender, ethnicity and nationality, disability, personal and social background, gender identity and sexual orientation, political opinion, religion, culture and ideology, and expressly includes all vulnerable groups. Furthermore, the Declaration confirms our aspiration to administer all aspects of employment, from recruitment, through training, appraisals, and promotions, to employee conditions and benefits, in a fair and impartial manner.

In the Declaration, our Corporate Board of Management emphasizes the great importance of diverse teams and the creation of a working environment of mutual respect and appreciation. Managers in particular are expected to foster their team members' development, support good cooperation – including across borders – and drive their teams' willingness to transform. This attitude is further emphasized by the fact that the Voith Group President and CEO promotes and supports the topic of Diversity and Inclusion and all relevant activities within the company as a sponsor.

"Each of our employees is unique due to their different backgrounds, experiences, perspectives, and strengths. We appreciate this diversity and promote equal opportunities, because we are convinced that diverse teams boost innovation, help us to truly understand our customers' needs."

Dr. Toralf Haag
Voith Group President and CEO, Global Sponsor for Diversity and Inclusion

Global Diversity and Inclusion program with local direct contacts

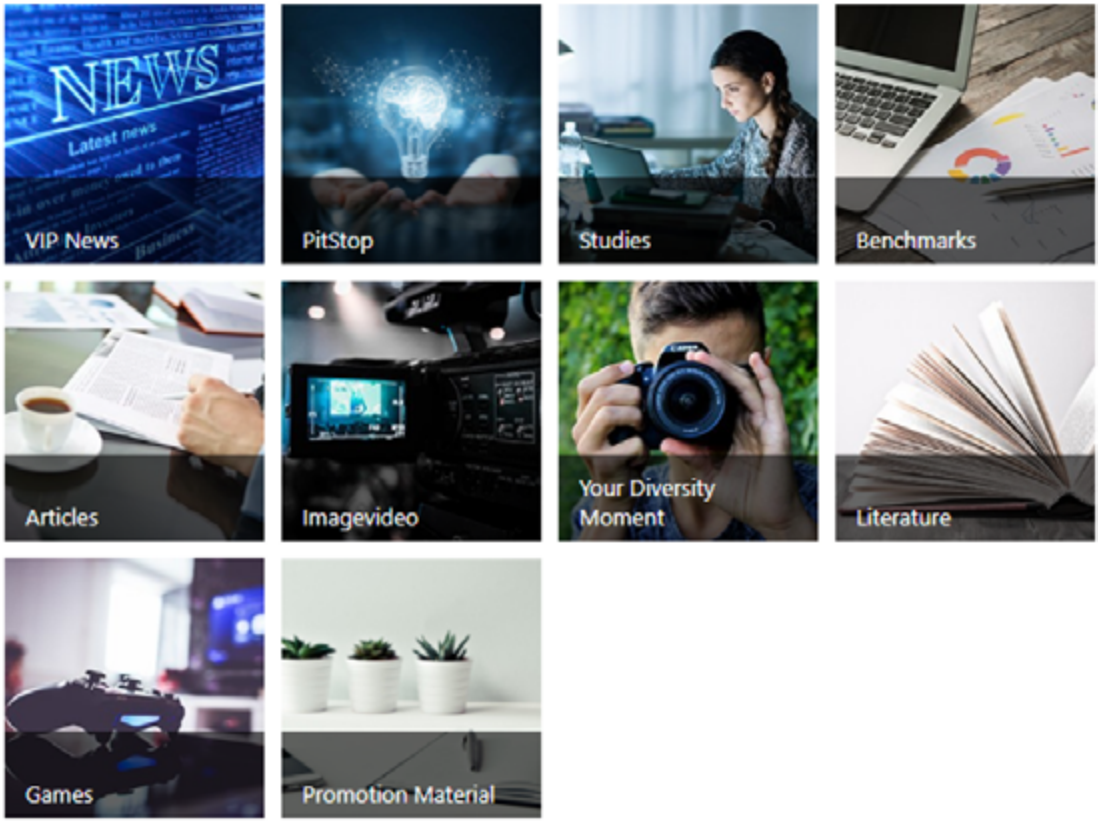
Our Diversity and Inclusion program comprises not only the consistent sensitization of all employees, but also the implementation of specific measures (see below). The relevant topics are shared with contacts at the respective locations by the Regional HR Business Partners as well as by the D&I Managers and Advocates in the regions. Group Human Resources coordinates the program and defines globally applicable standards, ensuring we take a uniform approach and disseminate best practices across the Group. At the same time, we take account of the varied challenges we face worldwide.

Measures to increase diversity and equal opportunities

An important element of our D&I program is optimizing our HR processes to counteract unconscious bias. To this end, we continuously drive forward the Group-wide standardization and objectification of internal procedures when selecting and promoting employees in the context of recruiting and talent development – for example, through 1+6+3 tests and potential interviews, as well as through management audits when seeking to fill management positions.

When selecting applicants, in addition to the professional qualifications required by the position, a decisive factor is whether their way of thinking and working matches our corporate culture. Our global interview guide for job interviews is therefore based on the competency model. The guide includes standardized questions and clear criteria for evaluating applicants' answers, making it possible to select candidates more objectively. In the 2021/22 fiscal year, we also introduced talent management tools using objectified criteria to create equal opportunities in talent development.

Management training on Diversity and Inclusion
Over recent years, our managers around the world have received training in mandatory workshops on the importance of D&I and how to implement it in their own actions. There is also a mandatory D&I training module in our Management Development program. In addition, managers have access to a toolkit on the company's SharePoint platform, which provides ideas for measures and activities to put D&I into practice in their day-to-day working life, in their teams, and to help them reflect on their own management style.



Continuous global information on Diversity and Inclusion

We keep our employees regularly updated about D&I through global communication campaigns and lecture series. Furthermore, as a signatory to the Diversity Charter, Voith has taken part in German Diversity Day since 2019. As in the two previous fiscal years, this day was expanded into a global D&I month in 2023 to facilitate intensive exchange in regional and global, self-directed workshops, giving employees the opportunity to learn with and from one another, and to network with colleagues. In addition, employees can get involved in regional Employee Resource Groups (ERGs) and actively contribute to specific D&I topics via these networks. This approach is supported by digital tools and formats that promote communication and networking across hierarchies, regions, and Group Divisions. Finally, an e-learning module on the topic of unconscious bias is available worldwide.

Measures to boost women and girls' interest in technical professions

Women are still underrepresented in technical apprenticeships and higher education programs. For this reason, Voith is involved in a variety of measures around the world that are aimed at increasing girls' and young women's interest in technical professions. For example, we have been participating in Girls' Day and the Girls' Academy for many years. We are also involved in various initiatives run by the State Ministry in Baden-Württemberg with the aim of encouraging more girls and women to STEM professions and increasing career opportunities for women, including those that are returning to work.

Increasing female manager numbers

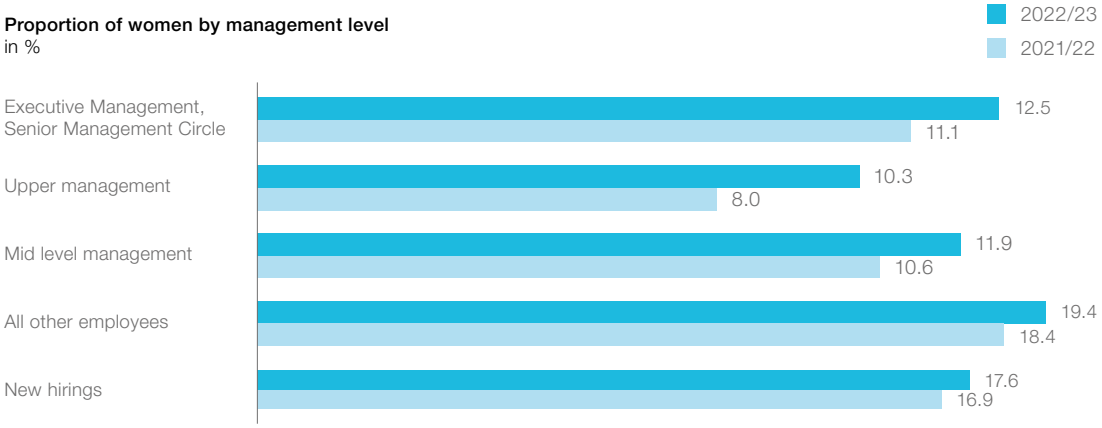
We are implementing a wide range of measures to increase the percentage of women, and more specifically the proportion of female managers in the company. These include, for example, HR marketing activities aimed at sparking women and girls' interest in STEM professions and at positioning Voith as an attractive employer for women in particular. Furthermore, we are working on promoting equal opportunities at all stages of a career at Voith. This includes standardization of the interview process and ongoing flexibilization of our working models. These efforts are supported by internal regional women's networks that offer various initiatives such as mentoring programs, networking events, and training courses. For example, we have been part of the Women & Work Network and Social Bee's Female Accelerator Program since this fiscal year.

Our commitment is also gaining recognition outside the company: Voith was listed as a Top Employer for Women in German Brigitte magazine's Employer Study for the third year in a row. Since 2020 we have also been included in the Financial Times list of Europe's Diversity Leaders.

Fact base
Diversity in management and in the workforce

As of September 30, 2023, the proportion of female employees in our workforce rose by 5 % to 19.4 % (previous year: 18.4 %). In the Voith Senior Management Circle, the proportion of women rose to 13.6 % (previous year: 11.8 %). Finally, the proportion of women in middle management positions at Voith rose to 11.9 % (previous year: 10.6 %).

Proportion of women by management level
in %



Improving work-life balance

Voith sees itself as a family-friendly company, an understanding that is embedded in our Group-wide guidelines to ensure a flexible and family-conscious work culture. We work to familiarize all our managers with the need to maintain this work culture through ongoing communication measures to achieve our stated goal of offering our employees an attractive working environment. This includes offering flexible working models that are compatible with different life situations. Indeed, 72 % of our employees are already largely free to organize their working hours flexibly. In consultation with their supervisors, they can agree individual models ranging from the use of flextime, part-time work, job sharing, and sabbaticals, to remote working.

Fact base
Flexible working time models, parental leave

Welfare counseling for occupational stress and private challenges
Voith also offers welfare counseling at various locations. This gives employees a framework in which to address both occupational stress and private challenges in dialog and find a mentored approach to resolving these issues. The use of counseling helps ensure employees' ongoing wellbeing, enabling them to better manage their professional tasks and achieve high performance levels. Thanks to our cooperation with an external service provider, our employees in Germany can obtain information and support relating to the care of family members and children.

MyDialogue as a standardized management tool

We are convinced that an essential key to workforce motivation and satisfaction lies in good communication between managers and employees. This is why we intend to establish an ongoing dialog on skills and interests, event-related feedback, and a constructive no-blame culture within the company. The aim is to give all employees the opportunity to talk to their managers in a structured manner several times a year about goal achievement, changes in behavior, and what support options are available to them. These discussions generally take place at the beginning and at the end of each fiscal year, or whenever it is considered appropriate from the employee's or manager's point of view. In so doing, our aim is to go beyond simply agreeing on performance objectives and focus more strongly on the way in which these goals can be achieved. Since the 2021/22 fiscal year, the established leadership tool MyDialogue has provided the basis for ongoing, ad-hoc discussions between managers and employees to take place systematically throughout the organization.

Fact base
Employee turnover, new hirings

If employees leave our company of their own accord, we investigate their motivation for leaving to identify potential for improvement. Overall, the Group-wide employee turnover rate fell to 11 % in the reporting period (previous year: 12.1 %). 5.3 % of employee turnover (previous year: 5.8 %) was due to employees terminating their employment contract.

2.2.1 Attracting and promoting talent

Against the background of a general labor shortage, Voith works tirelessly to strengthen our employer brand. Our careers website plays a key role here as an important component of employer branding. In the reporting period we focused on redesigning our existing careers website. Our aim is to offer website visitors an intuitive platform where they can easily find all relevant information about us as an employer. Furthermore, we have continued to expand our social media activities to give potential employees an authentic impression of working life at Voith, including posting success stories, company events, and employee portraits. Finally, after two years of restrictions brought about by the Covid-19 pandemic, we were once again able to have a more frequent in-person presence at events and career fairs.

Training leadership

The professional development of our executives is of great significance within the overall strategy of our training and development measures. We pay close attention to the emotional bond and adaptability of our employees, by which we mean those aspects that are influenced more by intrinsic motivation than by purely technical skills and abilities. With training courses on specific leadership challenges and topics such as Remote Leadership and Leadership and Health, we aim to meet the highly complex challenges of modern leadership.

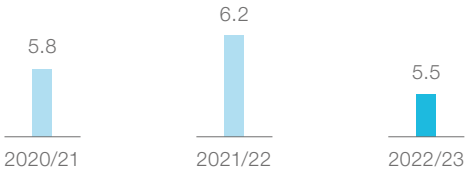
With the goal of developing strategic competencies, we established a standardized leadership model in the 2020/21 fiscal year, based on the new leadership skills Enable, Connect, and Transform, and successfully trained almost 3,000 managers as part of our e-learning program. In a survey of all managers conducted in the fiscal year 2021/22, 75 % stated that the 3 x 2 leadership model supports them effectively in their leadership responsibilities, while 81 % recommended the e-learning program. Specific improvement measures were also derived from the survey. For example, we developed further training presentations on core topics, which are regularly provided to all managers. In this way, managers' understanding of the new leadership model is constantly consolidated.

Finally, our leadership training for all new managers, the Leadership@Voith Fundamental Program, was adapted to the leadership model in the 2021/22 fiscal year.

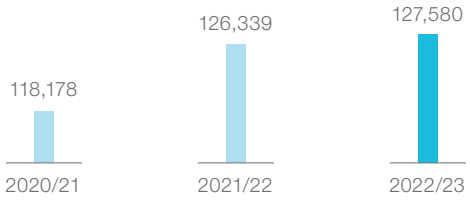
Promotion and development schemes for employees and emerging talents

Our talent management measures aim in particular at identifying employees with leadership potential and promoting their advancement in a targeted manner. We intend to improve the selection quality of leadership talents through objective potential assessments, not least to fill leadership roles more quickly and more transparently via a pool approach. Our overall aim continues to be to fill the majority of our leadership positions from within our own ranks.

Average training hours per employee



Total training hours



Employee training and further education is a top priority at Voith. The focus of our attention is on the continuous development of our employees' skills through a wide range of training programs in the areas of leadership and social skills, as well as building their methodological and specialist knowledge. This includes, for example, our functional training models for Sales, Purchasing, and Product Management. Using train-the-trainer programs, we create a high level of internal participation in skills transfer, making use of the full range of internal and external classroom and e-learning formats. There are also programs for specific Group Divisions, such as the Paper Academy: New starters at Voith Paper as well as Service employees can acquire paper production skills and knowledge via a portfolio of online and classroom-based training courses, with each course building on the knowledge acquired in the previous one.

Fact base
Training and further education hours by hierarchical employee category

In the 2022/23 fiscal year, Voith employees completed an average of 5.5 training hours, compared to 6.2 in the previous year. This only includes the systematically recorded and thus evaluable training hours; additional training measures such as on-the-job training are not included in this figure.

Continuous improvement of our training program

Voith works continuously on improving our training program. For this reason, we ask participants about their experiences after each training course, and provide these insights to the trainers and to HR. In addition, an assessment is obtained from the respective manager as a means to evaluate the success of a measure from different perspectives.

With the Talent Program for the EMEA region, Voith provides a Group-wide offer that is specially tailored to graduates and applicants with their first professional experience. The three programs, GROW, DISCOVER, and INNOVATE, meet the different needs of the emerging talents, as well as the company's requirements. The candidates work on strategically relevant and stimulating projects in an international context. Over the course of the program, they build up a network while also tackling innovations and future topics.

Systematic preparation of talents for management and leadership responsibilities

In this reporting year, the Voith Paper Talent Board once again gave emerging talents from Germany the opportunity to work together on specific project tasks with a strong strategic focus, that were either defined by the Corporate Board of Management or proposed by the emerging talents themselves. As part of the program, they were able to reflect on the results with the Corporate Board of Management, and to prepare themselves for future management and leadership responsibilities. Personal mentoring and the option to attend a leading business school rounded off the program.

At Voith Turbo, talent is promoted through collaboration in strategic, mostly international, cross-functional projects. Job rotation, international secondments, and intensive mentoring in an international context also support the development of high-potential employees. In terms of strategic skills development, in recent years several employees have been given the opportunity to combine a part-time master's degree in e-mobility at the universities of Ingolstadt and Aalen with their work at Voith.

Cooperation with GIZ for prospective African leaders
Voith also takes part in the AFRIKA KOMMT! (Africa is coming!) initiative, a training program in cooperation with the German Federal Enterprise for International Cooperation (GIZ GmbH). The aim of the program is to train future African managers in the company. A key component of the annual training initiative, which Voith, as a GIZ partner, has supported through a scholarship company since 2008, is an eight-month training course in our Group.

Our long-term objective is the permanent acquisition of African talents to strengthen our business activities in Africa. The high demand for hydropower plants in particular offers many opportunities for Voith in Africa, while at the same time the realization of these projects on the ground helps drive local development.

High aspirations – high levels of training

Voith has been committed to providing world-class vocational training for over 100 years. Interdisciplinary learning and the integrated provision of social and specialist expertise are especially important to us. We are equally committed to providing training at our international locations.

Voith's largest training facility outside Germany is our Training Center in Kunshan, China, where we provide vocational training based on the German dual-study system, adapted to local requirements. In Brazil, too, where in 1964 Voith opened its first plant outside Europe, we have been providing training for many years. Meanwhile in São Paulo, we offer a typical two-year, dual-study program for young people over the age of 15 in cooperation with local educational institutes, which regularly produces exceptionally well qualified young technical talents.

Our training portfolio is as focused as possible and concentrates on technologies and developments that are relevant to Voith. The objective is to provide graduates with the best possible preparation for their employment with Voith. Part of this preparation is a focused onboarding process that ensures a seamless transition between training and the target position. Voith apprentices and students are regularly among the best in their class.

Vocational training and dual-study program at Voith

In the 2022 reporting year, the Hanns Voith Special Vocational College looked back on what is now a success story that spans 50 years. Every year, approximately 30 young people with special needs start a year of pre-vocational education here. More than 80 % of graduates then go on to vocational training in the East Württemberg region.

The Baden-Württemberg Cooperative State University (DHBW) has been a strong partner of ours in the academic training of emerging talent for over 40 years. It offers more than ten different courses at five university locations. The education links theory with practice and is combined with time spent abroad or a cross-location assignment. We also offer dual-study programs with selected universities. We regard the dual-study program as an important pillar in securing the next generation of leaders at Voith.

Fact base
Vocational training

For more than ten years, Voith has partnered with Steinbeis University on two different management degree courses, as well as with the DHBW Center of Advanced Studies in Heilbronn on a range of technical degree courses.

2.2.2 Occupational health and safety

Occupational health and safety are a top priority at Voith. By taking a responsible approach to designing workplaces and processes, we work to prevent accidents and work-related illnesses as far as we can. Our divisional HSE (Health, Safety, Environment) organization with its shared services structure offers the best basis for comprehensive support of our individual locations and regions. Almost 80 % of our employees, a figure which comprises almost all employees at our large production locations, already benefit from a standardized occupational safety management system, certified in accordance with ISO 45001.

Fact base
Certifications

Our occupational health and safety activities are concentrated in the central Quality & HSE (QHSE) Board, in which the HSE managers in the Group Divisions coordinate their activities. They report functionally to the Global Head of Corporate HSE. In addition to a greater local presence, the aim is to offer specialist support with a stronger product focus: Established processes serve to identify occupational health and safety risks and hazards. The information is accessible to everyone involved and can be accessed via a central system that allows knowledge and experience to be easily transferred between areas.

Fact base
Approach to preventing and handling negative health and safety impacts

Our principal focus in the 2022/23 fiscal year was continuing our work on the main workstreams defined in 2021/22, which are as follows: reducing hazardous materials, developing an innovative training concept for employees and managers, and formulating a communication roadmap. The status of these work-streams and other global HSE topics is monitored by the QHSE Board, which meets monthly.

Group Directive sets the framework for occupational health and safety

A Group Directive sets out the requirements and responsibilities for effective occupational health and safety, laying down binding minimum requirements and standards for the Group. In the 2021/22 fiscal year, the Standard Operating Procedures (SOPs) were superseded by work and process instructions on occupational health, safety, and environmental protection (HSE) at Voith. They are supplementary to the Group Directive and regulate how risk and hazard assessments are carried out, the organization of hazardous material management, and the handling of topics such as radiation protection, ergonomics,

and noise, as well as how to work with specific machinery. A separate work directive lists specific measures that are required for employees of external companies and visitors when entering Voith locations with regard to work, health, and environmental aspects. The systems, processes, and responsibilities for incident investigation and statistics are also regulated in a separate work directive to ensure that a standardized incident investigation and reporting system is in use and is implemented in all incidents. Our system also deals with accidents involving employees from external companies and temporary employment agencies, as well as our customers and visitors. In principle, while these rules apply to all locations, the more stringent provision is always applied when reconciling the regulations with regional requirements. Any separate agreements made with customers regarding occupational health and safety are binding if they impose higher or more specific requirements. In the case of new acquisitions, the rules are implemented successively and compared with the existing regulations.

Chapter
Environmental management approach

Efficient IT system supports HSE activities

We use our Group-wide hse+ IT system from Quentic, which is now also used in our smaller organizational units, to manage HSE.

As a fundamental principle, we attach great importance to the early involvement of Data Protection Officers in all issues relating to HSE reporting, controlling, and communication. Since January 2022, central legal databases are no longer accessible via hse+. Instead, local regulations are identified at country level and are translated into legal obligations.

Where prescribed, occupational health care is provided either in-house or by external service providers, who are bound by medical confidentiality. In these cases, reporting is carried out in an anonymized fashion, for example regarding numbers of vaccinations, screenings, and medical consultations.

The Environmental Risk Assessment tool that was rolled out by Voith in 2019 objectively identifies and documents various hazards at our locations and documents these daily. As with the other risk assessments, actions can also be assigned here, and their implementation tracked.

Joint task of occupational health and safety

Fact base
Employee representation on committees

Company agreements on occupational health and safety, as well as addiction prevention, supplement the provisions of our HSE Group Directive at location level. A Safety Committee, which meets on a regular basis, brings together employee and employer representatives at our major production sites to develop the Annual Occupational Safety Program (Annual Program) and determine its implementation. We also hold all legally required meetings (for example, OSC meetings in Germany).

Occupational safety

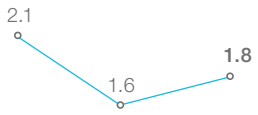
Voith anchored the reduction of accident frequency and severity in our corporate objectives in 2009. Since then, we have been able to significantly improve occupational safety at Voith.

Today, Voith ranks among the world's leading companies in occupational safety across all industrial sectors. This is confirmed by the frequency rate, which is calculated according to international standards. Accordingly, the number of accidents per 1 million working hours has decreased significantly by almost 88 % from 13.9 in the 2008/09 fiscal year to 1.8 in this reporting year – a huge reduction and an excellent figure compared to the industry as a whole. By comparison, the average frequency rate for companies in the Professional Association of Plant and Mechanical Engineering in Germany in 2022 stood at 20.41. Despite our global efforts on occupational safety, we were unable to match the positive figures from 2022: The number of notifiable accidents in this reporting year rose from 61 to 75. Despite this rise, we are still doing very well compared to the rest of the industry. We are working on identifying accident focus areas and establishing safer procedures and processes through appropriate programs. We are pleased to report improvements in the severity rate, which serves as a measure of the severity of accidents: At 362 lost hours (previous year: 492) per million working hours in the reporting year, we registered the lowest figure in many years. There were no fatal accidents at work in this reporting year.

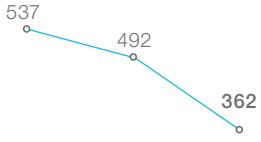
Fact base
Occupational accidents

We intend to build on these successes by setting ourselves a higher target, as we are convinced that it is achievable. In April 2023, a frequency rate of less than or equal to 1.5 was adopted as the new target for occupational safety. Attaining a value of 1.8, we narrowly missed achieving this target in this reporting year.

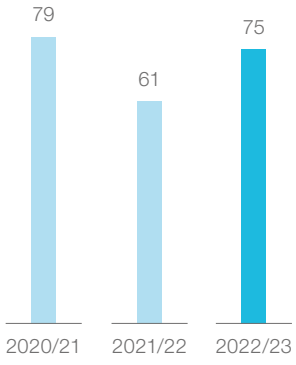
Frequency Rate
Specific value of accidents per 1 million working hours



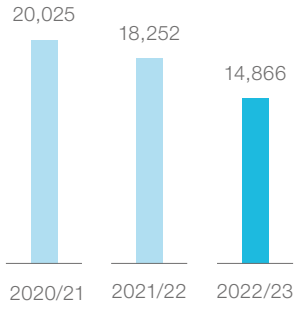
Severity Rate
Specific value of lost hours per 1 million working hours



Number of accidents



Number of lost working hours



Comprehensive occupational safety program

Our occupational safety program applies to all Voith employees without exception. Executives with supervisory roles carry a particular responsibility for occupational safety: They are responsible for risk assessments, as they are best acquainted with the technical requirements as well as their employees' level of training and experience. Furthermore, they have a clear duty to ensure that information and targets are cascaded as prescribed: from the Corporate Board of Management, through the respective executive levels, to employee level.

Regular sensitization to safety issues

Employee training and adequate communication of key developments also fall within the remit of executives with personnel responsibility. Employees must be given documented instruction at least once a year, using centrally prescribed training materials to support this process. Besides annual instruction, brief information on the topic of HSE is published regularly, in some cases daily, and information sheets are available on selected aspects. Further topics arising from local accident analyses as well as topics of general relevance are communicated as part of the annual occupational safety program at our locations.

Online instructions supplement personal instruction

The use of our HSE software for online training continues to gain in importance, even if it cannot replace personal instruction by supervisors. Individual areas carry out online training courses that are tailored precisely to their respective needs. This has proved particularly effective in communicating information promptly and globally to both office-based and Field Service employees. We work to raise our production employees' awareness through five to ten-minute, high-impact presentations. Beyond the annual instruction we provide, these presentations on current topics keep aspects of occupational safety firmly present in employees' minds as they perform their daily work. Various media formats are used to impart this knowledge, including monitors, scrum boards, and other tools. At Voith, we document all instruction sessions that are required by law.

Training of experts in the regional HSE organization with hse+
We place particular emphasis on the training of our experts in the regional HSE organization. They have already been rigorously trained on the use of hse+: We have used this online system since the 2015/16 fiscal year to display all key information on hazardous substances and risk assessments in a global, standardized, and transparent manner, in addition to audit planning and audit results. While some of the hse+ modules are mandatory, they can also be flexibly utilized by the locations. To this end, we are working on a work provision to describe the mandatory topics even more precisely.

Special responsibility in the field

Voith employees frequently take responsibility for compliance with occupational safety and environmental protection on construction sites or service calls, whether as supervisors without authority over other service providers, or by assuming full construction-site responsibility that includes authority over subcontractors.

Documenting, analyzing, and preventing accidents

At Voith, we record accidents centrally so that the direct supervisor is reliably informed, and notifications can be published on the intranet via the WebApp. This also ensures that the Corporate Board of Management is informed within 24 hours in the event of serious incidents.

Investigation teams comprising the concerned persons, supervisors, and safety experts review and document the accidents. Particularly serious accidents are investigated separately a second time by our global HSE team. A detailed description of accident definitions is provided in our Group Manual. These are presented in such a way as to make them internationally comparable with other companies.

More effective accident prevention with the eVAP app
Our eVAP (electronic Voith Awareness Program) app actively involves employees in accident prevention. The app lets them log potential accident causes quickly and easily, and forwards them to a central database. Pictograms facilitate operation and help break down any language barriers. The data is analyzed automatically and published in target group-specific internal media along with appropriate instructions. This helps us raise employee awareness of unsafe actions and situations before accidents occur. Furthermore, even more targeted prevention work is made possible thanks to improved data quality across all sectors and countries. In the 2022/23 fiscal year, our HSE experts received an average of 1,010 (previous year: 940) reports per month. This represents a further increase in the number of safety talks conducted.

Involvement of employees in safety risk information

To obtain information about safety risks directly and at an early stage, our employees are also questioned during inspections and audits. Moreover, they can draw attention to occupational safety risks via the Works Council.

The safety talks serve to identify unsafe actions, get employees involved, and derive key action points. At many locations, the findings feed into the annual occupational safety program. Routine communication regarding safety issues, accident analyses, audits, and other measures enables us to ensure we remain up to date on occupational safety and can take immediate action in response to serious accidents, or if specific types of accidents occur more frequently. In the reporting year, the number of audits carried out was increased as planned. Additionally, we are enhancing content quality by fostering close contact between the respective HSE experts and individuals involved in accidents.

Work has been carried out on further developing the eVAP app with the aim of being able to implement it as widely as possible. Since December 2022, the app can also be used on devices that run on Android.

Our global communication has been intensified to reach as many employees as possible. In this context, a message was posted on the Voith intranet to mark World Safety Day on April 28, 2023. It described the HSE goal that Voith is pursuing as well as the successes we have already achieved in this area. It also described how everyone can make their own contribution to helping achieve these goals. The subject was deliberated further in an internal podcast from June 2023, which examined the issues around behavior, role models, and safety culture.

Occupational health

We want all our employees at Voith to stay fit for work and retire healthy once their professional lives are over. To comply with differing legal requirements and recognize cultural differences at our locations in different countries, we always take a regional approach to occupational health management; one which complies fully with the legal requirements for occupational medicine and healthcare. During this reporting period, the focus has also been on returning to normal work processes following the end of the Covid-19 pandemic. Employees still have the option of combining office attendance with remote working, depending on their role and areas of responsibility. As increased numbers of employees are travelling again, we have seen an uptake in the demand for travel advice and preventative health measures in the field of travel medicine, partly as a result of differing requirements in the destination countries.

Legal requirements for occupational medicine and healthcare

Wide range of programs, campaigns and health promotion offers

In 2021, the Occupational Health Management (OHM) Steering Committee in Heidenheim launched the Voith Health Initiative (Voith Gesundheitsinitiative, VGI). This brings together a program of campaigns carried out selectively, as well as long-term health promotion offers. All health promotion programs are made transparent and summarized on the VGI SharePoint site.

In addition to the many online offers with a focus on nutrition and sleep, special campaign days, skin screenings, and flu vaccinations were again held on site in the 2022/23 reporting year. Our German locations took part in discussions about standardizing procedures and exchanging information with the aim of maintaining knowledge exchange in the future.

3. Environment

3.1 Environmental management approach

As a family-owned company, Voith is especially committed to avoiding environmental risks and to using resources responsibly. Our ambition is to co-create a decarbonized industry that is fit for the digital age. Here we focus in particular on energy and resource management. We have pledged to continually reduce our energy consumption and corresponding greenhouse gas (GHG) emissions, to use work materials and raw materials efficiently, and to avoid waste wherever possible. Our environmental goals also include the continuous reduction of our water withdrawal and wastewater volumes.

Dual anchoring of environmental management
Our environmental management is organizationally anchored in two areas. In conjunction with Occupational Health and Safety (HSE), in operational environmental protection we support our Group Divisions and locations strategically and operationally in complying with and implementing environmental regulations at global, national, and location-specific levels. In addition, Ecological Business Management (EBM) at Voith identifies environmental and economic improvement potentials in our production processes, enabling these to be harnessed and thus contributing directly to improving resource efficiency at our locations.

Highly effective environmental protection organization

A central approval process ensures that operational environmental protection processes and procedures are uniformly organized at Voith. An HSE Group Directive sets out specific requirements for the organization of environmental protection at our locations, and this is supplemented by detailed work instructions.

In cooperation with Occupational Health and Safety, we have organized our corporate environmental protection activities as a business partner structure, in line with the Group's Shared Services system. Responsibility for implementing these topics lies with the respective locations and the relevant operations managers, with the support of the environmental protection officers responsible for the locations. Their tasks and specialist areas include emissions control and water protection, waste management, hazardous goods and substances, as well as preventing incidents with a potential environmental impact.

The environmental protection officers also advise the operations managers on plant newbuilds and modifications to existing plants, as well as approval procedures, and conduct regular location inspections and audits. In the Group Divisions, they ensure that the Group companies are provided with systematic support.

Fact base
Certifications

Overall, we are striving to achieve comprehensive ISO 14001 certification for as many of our locations as possible. The current ISO 14001 certification coverage already stands at 81 % (previous year: 81 %) in relation to the number of employees.

Globally standardized management approach for controlling resource efficiency

Through a globally uniform management approach within the framework of EBM, we ensure that the same standards are applied throughout the company, thereby enabling high data quality and comparability.

Today EBM has already been introduced at over 170 Voith locations. In recent years, we have expanded our data collection coverage to now include smaller locations. The locations are advised by the EBM Managers of the respective Group Division. The central Corporate Sustainability function coordinates these activities and assumes responsibility for target controlling and reporting at Group level.

Green Controlling process

To achieve our ambitious climate protection goals, we rely on a Green Controlling process. With this proven process, we manage resource efficiency activities by regularly comparing implemented and potential measures with the respective effort required to achieve set targets. This approach ensures continuity in reviewing interim targets and allows us to intervene quickly and effectively if needed.

Hot-spot analyses support the EBM team in advancing specific and cross-location topics. For efficiency reasons, we focus on the largest consumption drivers in each case. To this end, all consumers at energy-intensive locations are recorded and their energy efficiency is evaluated and collected into groups of similar consumers. All consumer groups with a share of over 5 % of the total energy consumption of the respective location are monitored monthly using energy performance indicators.

Fact base
Hot-spot analysis methodology

New locations integrated into reporting

A very high proportion of the energy used is required for infrastructure in the form of heating, cooling, and ventilation. Particularly energy-intensive manufacturing processes include production, cleaning, painting, hardening, and testing. Our Energy Efficiency teams, that have been operating at the respective locations since 2012, have been expanded to include additional teams at larger locations. All acquired companies and locations were also included in the reporting system, so that the proven working methods of these teams can be transferred to the new locations.

Twelve locations certified according to ISO 50001

Voith Turbo's existing energy management matrix certification according to ISO 50001 was extended to include an additional location in St. Pölten, Austria, and now comprises a total of twelve locations outside Germany, Sweden, and Austria. All Energy Efficiency teams work according to the requirements of the ISO 50001 standard, so that the matrix can be expanded at any time as necessary.

Projects to reduce energy consumption and GHG emissions

All large and inefficient consumers at the respective locations are recorded and examined to see whether more efficient alternatives present themselves. If optimization proves sensible and economically feasible, the corresponding efficiency projects are then implemented. Reducing energy consumption plays an important role here, but also ways of reducing CO_2 emissions. The procurement process for energy consumers has been revised and expanded in scope, so that an energy assessment of consumers to be procured is now conducted before any orders are placed.

At Voith Paper, most energy is consumed during thermal fixing (heat setting), whereas at Voith Hydro, the biggest consumption drivers are buildings, and test benches.

At Voith Hydro, consumption is continuously analyzed and efficiency measures at the global locations are identified in close coordination with the Resource and Energy Efficiency teams. Voith Paper prioritized all project ideas submitted by the locations and presented a selection of specific energy efficiency and photovoltaic (PV) projects at the end of the reporting year. This includes all regions in which Voith operates. The selected projects promise energy savings of 3.372 GWh/year through measures to reduce energy consumption, as well as several GWh per year of self-generated renewable energy through the installation of PV systems.

IT system as a central information source

Our Group-wide hse+ IT system from Quentic supports the work of our environmental protection officers and Ecological Business Managers. With its ability to centrally store and manage all relevant processes, documents, and analyses, the system forms the basis for efficient operational environmental protection, effective resource management, and matrix certifications (group certification of multiple companies with the same focus). The same applies to Voith standards, approvals, and formal requirements. In addition, hse+ assesses location-specific environmental risks and assigns, documents, and monitors measures based on these, along with responsibilities and implementation deadlines. The system is regularly reviewed and adapted, for example to integrate new locations.

Until December 2021, hse+ also recorded HSE-related laws and regulations that were pertinent to Voith. Since the beginning of 2022, however, these are stored in specific legal databases that the country organizations use to derive their legal obligations. With the help of these databases, we now have customized, country-specific solutions to effectively manage our legal obligations.

Recording, analysis, and documentation of all environmental incidents

All environmentally relevant incidents at Voith are recorded monthly via our Incident WebApp in a Group-wide reporting system according to standardized criteria and are then evaluated centrally. In the event of a more serious environmental incident, the respective Group Division management is informed directly. We also raise employee awareness of this topic through targeted communication measures.

Environmental incidents caused by third parties (external companies) are also analyzed in detail and appropriate precautionary measures are taken.

Moreover, an internal comparison with the insurance company takes place at regular intervals, so that all parties have the same level of knowledge and incidents can be dealt with professionally.

Six environmental incidents categorized as major occurred during the reporting period. These included, for example, incorrect waste disposal (metal in a wood container) and weather-related damage to buildings and facilities. In addition, one noise complaint was investigated, and suitable measures introduced to prevent its reoccurrence in future.

One environmental incident categorized as fatal occurred in November 2022. During drilling work on a foundation in York (USA), an oily substance was detected in the subsoil. Test analysis confirmed the presence of oil in the subsoil of the foundation. The local authorities were called in and clean-up was initiated with the help of external specialist companies.

To manage resource efficiency, target achievement status reports are regularly issued to the responsible managers at each location. In this way we continuously monitor and analyze our current target progress in the areas of energy, water, waste, and CO_2 emissions. Should the Green Controlling process indicate a requirement for more far-reaching measures, the Corporate Board of Management is informed promptly.

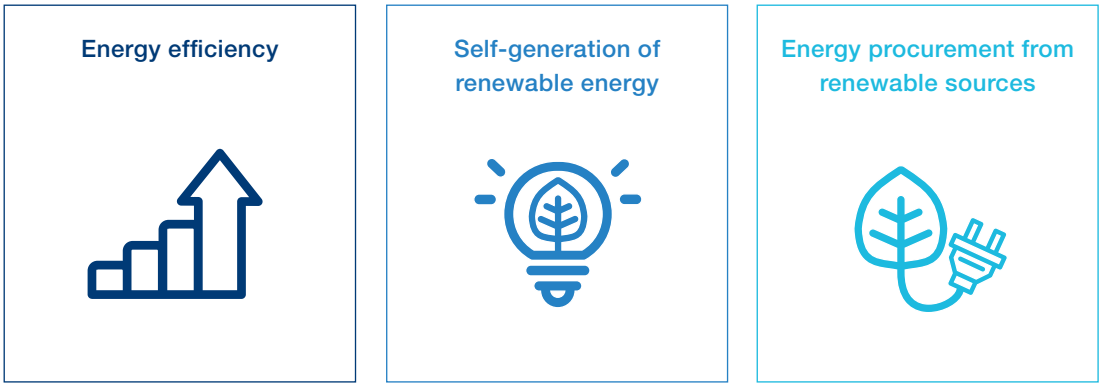
3.2 Energy efficiency and climate protection

According to the United Nations Paris Climate Agreement, the rise in average global temperatures needs to be limited to well below 2 °C and if possible to 1.5 °C compared to pre-industrial levels. Voith supports this goal and intends to make its contribution to climate protection and fulfilling international climate protection targets.

For this reason, we are not content with what has already been achieved in this area and have further honed our climate strategy during the reporting year. We have taken the next step in the fight against climate change and have joined the international Science Based Targets initiative (SBTi) to demonstrate our commitment to set science-based climate targets to reduce GHG emissions and contribute directly to achieving the 1.5 °C target. Moreover, from the 2022/23 fiscal year we will no longer be offsetting unavoidable emissions.

We will finish developing our new climate protection strategy in 2024 and will then submit it to the SBTi for validation. Until then, the targets we have already set will continue to apply, including reducing CO_2 emissions at our locations by 90 % by the end of 2049/50 compared to 2016/17 base year levels.

Our climate strategy



Greater efficiency, fewer emissions

More electricity from renewable sources

Progress in renewable energy purchasing

- **Energy efficiency:** We work continuously to increase the energy efficiency of our production processes. From the 2022/23 fiscal year, we have entered a new target period with the goal of increasing Voith's energy efficiency by 12.5 % by the 2026/27 fiscal year compared to the 2021/22 base year.
- **Self-generation of renewable energy:** A further pillar of our climate protection activities is expanding our renewable energy generation. By renewable energy, we mean energy from inexhaustible or rapidly renewable sources such as solar, wind, and hydropower. We continuously monitor at which of our locations further renewable energy generation projects are possible and economically feasible, or could become feasible in future. In the reporting year, we generated around 11.7 GWh of electricity from solar/wind and hydropower. Our aim is to increase the amount of energy generated in this way to 16 GWh/year by the end of the 2026/27 fiscal year.
- **Energy procurement from renewable sources:** Since October 2021, we have been using green electricity wherever possible. As a provider of hydropower components, we naturally give preference to electricity generated from hydropower. Our plan is to further increase this share in the coming years and cover our electricity requirements entirely with renewable energy.

Measures show impact

The systematic approach of assessing all energy consumers and reviewing optimization potentials on an annual basis ensures that new technologies, more economical approaches, and price developments for energy, CO_2 emissions, and production are all considered.

Thanks to our many CO_2 reduction measures, we once again made substantial progress in the 2022/23 fiscal year. Additional savings were realized in infrastructure (lighting, compressed air, heating, ventilation, and air conditioning). We were also able to further reduce our CO_2 emissions in process-specific areas (machine tools, thermosetting processes), as well as in logistics (EVs, electric forklifts).

A further focus in the 2022/23 fiscal year was on analyzing the direct consumption of fossil fuels in our production processes. Here we see further potential for reducing CO_2 emissions through renewable energy sources and electrification. We are working on specific action plans and have already achieved some initial successes.

This process enabled Voith Turbo to save a further 5 GWh through energy efficiency projects this year. The tireless work of our Energy Efficiency teams, and the permanent monitoring of energy consumption are necessary tools to ensure that these results are maintained and that the ambitious targets we have set ourselves can be achieved.

Greater efficiency, fewer emissions

In the reporting year, absolute energy consumption fell from 692,645 MWh to 633,549 MWh.

In April 2020, Voith took over a power plant at its Heidenheim location. Since the 2021/22 fiscal year, we have been reporting this power plant's energy consumption in natural gas, taking into account corresponding losses. We will be reporting energy produced by the power plant that is sold to third parties from this reporting year and have corrected the corresponding figures from the 2021/22 fiscal year retroactively. In the reporting year, Group-wide electricity consumption stood at 286,013 MWh (previous year: 294,765 MWh) and district heating consumption at 55,347 MWh (previous year: 67,399 MWh).

Voith has continued to grow in recent years through acquisitions. Accordingly, total energy consumption has risen in line with Group sales. To accurately assess the level of target achievement in the new target period, we have retroactively included energy consumption of our acquisitions up to the 2021/22 fiscal year. This measure resulted in a retroactive adjustment of our Scope 1 and 2 GHG emissions for the 2021/22 fiscal year. These corrections have already been included in the accounting for the 2022/23 fiscal year.

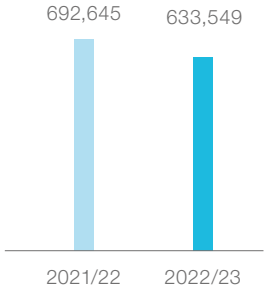
Comprehensive measures for further energy savings

The identified potential for energy savings increased from 159 GWh to 163 GWh in the reporting period (+3 % compared to the previous year). The completion of efficiency measures saved a further 9 GWh of energy in the reporting year.

Reducing GHG emissions by switching to electricity from renewable sources

In the 2022/23 fiscal year we succeeded in reducing GHG emissions at our locations by 13 % to 88,663 t CO_2 (previous year: 101,957 t CO_2). The share of direct GHG emissions (Scope 1) fell by 11 % to 56,555 t CO_2 (previous year: 63,389 t CO_2). Indirect GHG emissions (Scope 2) fell by 17 % to 32,108 t CO_2 (previous year: 38,569 t CO_2). The increase in direct GHG emissions in the 2021/22 fiscal year was due to the inclusion of the Heidenheim power plant's natural gas consumption. We also included energy sold externally in the 2022/23 fiscal year, as well as retroactively for the 2021/22 fiscal year.

Total energy consumption within the organization (Scope 1 and 2)
in MWh with almost 100 % coverage



Fact base
Methodology for recording energy consumption and GHG emissions, total energy consumption and total GHG emissions, measures to reduce energy consumption and GHG emissions

More electricity from renewable sources

With the aim of further expanding our own power generation from renewables at Voith, a range of renewable energy generation projects are currently being implemented or are in the detailed planning stage.

For example, a PV project in Dubai (United Arab Emirates) is already in the final stages of implementation, as is a smaller plant in Spain. A further plant in South Africa has been approved, meaning that construction can now commence. New projects in Kiel, Rutesheim, Mönchengladbach (Germany) and Vadodara (India, 446 kWp, 620 MWh/year, CO_2 savings: 270 t/year as renewable energy was not previously an option) are also contributing to our own solar power generation. Additional PV projects or extensions to existing plants are in the planning, currently at our two locations in Düren and Weißenborn (Germany), as well as in Tolosa (Spain), São Paulo (Brazil), Dubai, Hyderabad (India) and Shanghai (China).

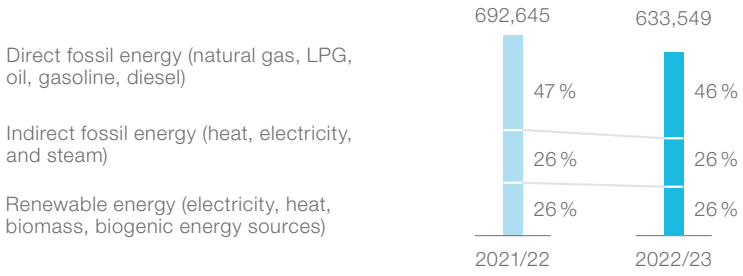
PV systems were connected to the grid at Voith Paper's locations in Tolosa, Mucuri and Ponta Grossa (Brazil), and Weißenborn (Germany) in the reporting year. Together they generate around 470,000 kWh of electricity per year. By installing our own PV systems, Voith Paper was able to generate 2.86 GWh of renewable energy annually in the year under review, with numerous other projects in the pipeline. In the next fiscal year, further systems are to be built in India, Chile, Malaysia, Germany, Switzerland, Spain, and the Netherlands.

Progress in renewable energy purchasing

To cover the highest possible proportion of our electricity consumption with power from renewables, the focus of our activities in the 2022/23 fiscal year was on converting our electricity contracts to green electricity. This change is regulated differently from region to region and is not easy to carry out in every country. Moreover, the proportion of green electricity we use has fallen slightly due to additional acquisitions. Currently, 74% of our electricity comes from renewable sources and 26% from non-renewable sources.

Fact base
Electricity mix

Energy use by source
in MWh



3.3 Material efficiency and waste

At Voith we manage our use of working and raw materials centrally across the Group to make our processes as resource efficient as possible. Significant challenges arise from the broad scope of our product portfolio and our correspondingly diverse process landscape. Added to this are differing project business requirements at Voith Hydro and Voith Paper, compared to serial production at Voith Turbo.

3.3.1 Use of materials and efficiency measures

In addition to decarbonization and digitalization, Voith is also committed to the circular economy principle. We want to drive innovations that help to close cycles in our industries and promote the principle of circularity. The same applies to our own production process cycles. Over a decade ago, Voith set itself the goal of reducing its waste volume by 35 % by the 2021/22 fiscal year compared to the 2011/12 base year. This target was achieved through improvements in material efficiency and waste avoidance at our locations worldwide. With the start of the new target period in the 2022/23 fiscal year, we are aiming for a further waste volume reduction of 1 % annually up to the 2026/27 fiscal year.

Material efficiency increased once again

In the reporting period, Voith purchased around 160,000 t of materials from suppliers, around 5 % less than in the previous year (171,268 t). Of the materials purchased, 51 % were semi-finished products (previous year: 59 %), 39 % were raw materials (previous year: 32 %), 7 % were packaging (previous year: 7 %), and 3 % were auxiliary materials and supplies (previous year: 2 %). Hot-spot and cause-and-effect diagrams (Ishikawa analyses) help us to continuously optimize our material efficiency. We apply these analyses in alignment with our Excellence program, which provides us with key approaches for identifying improvement potentials in product development and engineering.

Fact base
Materials used

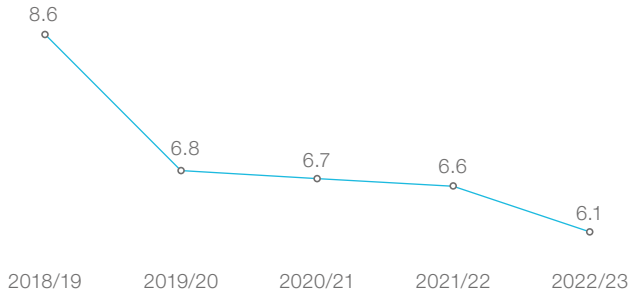
Material-dependent recycling

To promote the circular economy principle, Voith Purchasing increasingly sources recycled materials by pursuing a parts and materials-specific approach. Selected examples from Voith Corporate Purchasing of materials that can be bundled reveal the significance we attach to the topic in individual areas and procurement segments. In Voith's steel raw material procurement, for example, over 70 % is already recycled steel. Even low-value, high-purchase volume materials (known as C-parts) that Voith procures externally are made predominantly from recycled materials. The strategic goal of Central Steel Purchasing is to increase the recycling rate for steel purchases to more than 85 % over the next three to four years.

3.3.2 Management of waste and hazardous materials

In the reporting period, Voith generated a total of 47,978 t of waste (previous year: 54,079 t), which is 6,101 t less than in the previous reporting year. In 2021, Voith included a location with a foundry in its reporting; the foundry sand produced there is reported separately. However, this has also increased the total volume of waste. The corresponding indicator fell to 6.1 t/million € sales after 6.6 t/million € sales in the previous year (excluding foundry sand).

Waste
Specific value in t/million € turnover



In the reporting year, the volume of implemented waste prevention measures rose from 9,667 t to 10,334 t (+ 6.9 %) compared to the 2011/12 fiscal year. The individual locations work continuously to deliver specific solutions to local waste challenges. For example, the blasting system at Voith Hydro in Heidenheim was converted to use reusable blasting media, saving more than 50 tons of waste annually through eliminating disposable blasting media.

At Voith Paper in the USA, we successfully implemented additional measures to reduce material and hazardous waste. Furthermore, our experts at Voith Paper in Manchester (UK) are working on optimizing delivery packaging materials by switching from wood to paper packaging. Here we expect waste savings of around 36 tons.

In Heidenheim, some plastic packaging is being replaced by paper-based alternatives to reduce consumption of non-renewable resources and to reduce waste at the customer's site. At Voith Paper in Kunshan (China), a low-temperature evaporator has been used to reduce the amount of grinding water as a hazardous substance.

Fact base
Waste volumes

Proportion of hazardous waste again down significantly

In the 2022/23 fiscal year, Voith again achieved a significant reduction of 6,102 t in hazardous waste, as well as a reduction of 1,762 t in non-hazardous waste. Approximately 87 % of waste at Voith is classified as non-hazardous (excluding foundry sand) and only 13 % as hazardous waste.

Voith does not transport any waste itself. The collection and storage of hazardous waste at Voith is governed by internal regulations, with disposal handled by certified, external disposal and recycling companies.

We pursue guideline violations thoroughly: We contact the waste disposal company immediately if a violation is detected, indicate the issue, and check whether it has been rectified within a reasonable period. If this is not the case, the cooperation is terminated. Should we become aware that a waste disposal company is disposing of waste illegally, this results in the immediate termination of the business relationship. Voith conducts regular waste disposal audits for verification purposes. These audits include on-location inspections of waste disposal sites and the associated facilities, as well as the collection and documentation of waste disposal records. In the reporting period we were not made aware of any violations of the law in relation to the disposal of waste by our external waste disposal service providers.

Fact base
Hazardous waste

Improved safety through targeted hazardous materials management

Voith uses hazardous substances such as paints, varnishes, thinners and solvents, adhesives, resins and hardeners, lubricants, cleaning agents, and industrial chemicals in its production processes. Our hazardous materials management aims to ensure that critical substances are handled as safely as possible.

Through our Group-wide hazardous materials approval process, we work toward replacing especially harmful substances with harmless substitutes, and to advance the harmonization of safety standards across the organization.

Central approval process

At Voith, every work material and hazardous substance goes through a central approval process before it can be employed. Our requirements extend beyond legal requirements such as the EU's REACH (Registration, Evaluation, Authorization, and Restriction of Chemicals) Regulation and its annexes, according to which only previously registered chemical substances can enter the market: In part because our central approval process is more restrictive than that of REACH, and also because our approval process applies worldwide and not just within the EU.

Active indications of health hazards

Wherever possible, we prohibit the use of substances of very high concern (critical SVHCs), which are chemicals that have serious injurious effects on human health or the environment. If our central approval process determines that a substance's ingredients are carcinogenic (C), mutagenic (M), or toxic to reproduction (R), in other words we are dealing with a CMR substance or one that is classified as acutely toxic (categories 1 to 3), we explicitly draw the applicant's attention to the associated health hazards and set a deadline for replacing the substance. Furthermore, we offer training courses on topics such as diisocyanates (key raw material in the production of polyurethanes) and provide support in finding alternatives.

Requests require supervisor approval
Since December 2021, every new request for a hazardous work material must be approved by the respective disciplinary supervisor, and the responsible organizational unit will also share the costs directly, ensuring that only feasible requests are made. At the same time, we constantly monitor our baskets of goods and work to reduce the number of hazardous materials through suitable substitutions. In the 2019/20 fiscal year, we completed an initial categorization of hazardous materials into application groups, to prevent new additions wherever possible and to phase out redundant hazardous materials.

Additional local approval process
In the downstream local approval process, workplace and location-specific topics are added (e.g. water protection area, local regulatory requirements, storage location, on-site transportation, disposal). The use of centrally approved substances can therefore still be blocked at local level for location-specific reasons.

A central hazardous materials database allows us to perform standardized global evaluation and monitoring of the environmental, occupational safety, and health risks of plant, work materials, and hazardous substances, providing us with an invaluable basis for decision-making. Some examples of these evaluations in the 2022/23 reporting year are as follows:

- Around 800 new material masters were created in the reporting period. The rejection rate of non-approved and hazardous materials at Voith, or because of adequate substitutes already being readily available, lay at around 15 %.

- During the reporting period, 124 material masters were deactivated in our IT systems. This significantly reduces the risk associated with the use of redundant materials and the corresponding costs and risks associated with the procurement and storage of these materials.

- A large percentage of the banned materials came from a pilot project to reduce carcinogenic materials in Germany and Austria. Approximately 30 % of all CMR substances were eliminated or substituted. These CMR substances were identified by their H phrases, which describe the nature of the hazards posed by chemical substances or mixtures in the safety data sheets. After registering the processes in which these substances were used, alternatives were defined with the respective contacts, or the substances were deactivated in the system so they cannot be reordered in future.

- Another way of phasing out materials that are no longer in use is to implement a training requirement for materials that contain diisocyanates. Where materials containing diisocyanates continue to be used, we implemented or scheduled training courses for the employees concerned. In areas where a particularly large number of employees work with diisocyanates, we have trained our own Voith employees to trainer level, to enable them to become internal multipliers for the required knowledge.

Consistent identification of improvement potentials

We constantly seek to identify further improvement potentials at Voith. We aim to improve our performance in the following areas, and have already initiated projects around the safe use of materials:

- In future, both physical hazards and health hazards will be considered in the central approval process to avoid accidents with highly flammable organic solvents. Alternative solvents have already been found for degreasing and cleaning semi-finished and finished products.

- The scope of materials to be recorded in the database and the inclusion of additional locations continue to present us with a number of challenges: Many applicants are not aware how to obtain the correct and up-to-date safety data sheet; the two hazardous materials databases we use are still incomplete; some sites are not yet connected to SAP meaning that several Enterprise Resource Planning (ERP) systems are used in parallel, so cleansing of data records is not yet consistent. As a result, the consolidation process is anticipated to take longer than was initially expected when the project was launched in 2011.

- We have included materials in the Sustainability Report for the first time: As part of our Group-wide effort to reduce hazardous work substances, the project to switch to hexavalent chromium-free coating systems, which was launched in 2018, has now been successfully concluded. During the project, 15,445 material masters in SAP containing a hexavalent chromium coating with A3C or A2C were converted to a hexavalent chromium-free thick-film passivation with zinc (Zn). As part of this changeover of coating systems, it was possible to reduce the overall number of redundant material masters across the Group.

  The project was originally initiated following the inclusion in 2013 of hexavalent chromium as a pure substance on the list of toxic substances subject to authorization within the EU under REACH. The electroplating industry, which employs hexavalent chromium in corrosion protection, was directly affected by this reclassification. Since 2017, an EU-wide ban on coating components with hexavalent chromium has been in force, however trade in chromium-plated components remains permissible.

  Voith has opted not to use coatings containing hexavalent chromium anywhere in the world to protect the health of our global workforce and customers.

3.4 Water

Voith sees handling water responsibly as a matter of course. It is our declared goal to achieve further reductions in freshwater withdrawal, although water and therefore also wastewater play only a minor role in our production processes compared to other industries. Nevertheless, we analyze and manage our water consumption in the same way as our energy and material consumption. Our minimum standards fulfill the relevant legal requirements. In this, we differentiate between drinking water, groundwater, and surface water.

We work above all to reduce our freshwater withdrawal, also to relieve the burden on the local water supply. We entered a new target period at the start of the 2022/23 fiscal year and aim to reduce our water consumption by 1 % annually up to the end of the 2026/27 fiscal year.

In view of the efficiency gains of recent years, however, it is becoming increasingly difficult to identify further efficiency projects that are economically feasible. Our water withdrawal can be largely attributed to processes at our training center in Heidenheim. Here water is drawn from the River Brenz for cooling purposes and is subsequently fed back into the river unchanged following an official inspection. While these are ecologically rational measures with regard to circularity, they stand in contrast to our strict water withdrawal reduction targets. We will therefore pay greater attention to the issue of water scarcity in future, particularly in the affected regions. In developing our water withdrawal plans we therefore focus primarily on locations in regions with a risk of water stress.

Focus on water scarcity

In the 2020/21 fiscal year, we analyzed water risks at Voith locations using the Aqueduct Water Risk Atlas from the World Resources Institute (WRI) and the WWF (World Wide Fund for Nature) Water Risk Filter. The criteria of water quality and quantity were considered, along with regulatory framework conditions.

Further information: Aqueduct

The analysis comprised all location-specific criteria available in the tools. In the 2020/21 fiscal year, 20 % of Voith's water withdrawal occurred in water-scarce areas. Based on the analysis results, our conclusion is that our local water withdrawal activities currently have no known impact on the environment or on our stakeholders. Any such impact would trigger our environmental incident reporting process, resulting in a thorough root cause analysis and rapid resolution.

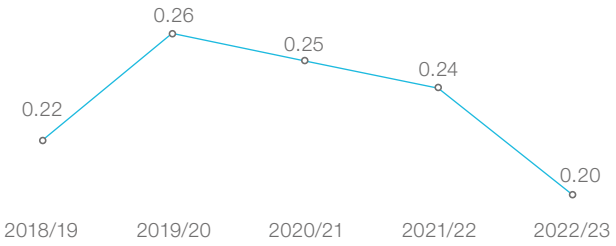
Further information: Water Risk Filter

Reduced water withdrawal

In the reporting period, Voith's freshwater withdrawal sank by 76,958 m³ or 7 % to 1,089,297 m³. In relation to sales, freshwater withdrawal sank by 4.7 % compared to the previous year: to 0.20 m³ per € 1,000 in sales revenue.

In the same period, we were also able to identify further reduction potentials for freshwater withdrawal. Overall, we predict that we will be able to withdraw an additional 2,176 m³ less freshwater in future.

Freshwater withdrawal
Specific value in m³/thousand € turnover



Fact base
Water withdrawal

Significant water savings will be achieved in future at our Mönchengladbach (Germany) location through the installation of an automatic flush. Forecasts predict that these savings will amount to 46,175 l of water annually. At our Voith Hydro location in Shanghai (China), there are plans to harvest rainwater and the water used in pressure tests for toilet flushing, thereby reducing the volume of freshwater that is withdrawn.

Wastewater volume and wastewater treatment

With a volume of 1,016,819 m³, the volume of wastewater increased by 7 % compared to the previous period (previous year: 984,282 m³). 41.8 % (previous year: 52 %) of this volume was discharged into rivers, lakes, and the ground, while 58 % (previous year: 47 %) was discharged into the sewage system. We use recycled water wherever it makes economic, environmental, and social sense, for example in cooling processes in São Paulo (Brazil) or in closed cooling water circuits in locations such as Garching (Germany), Sommerville (USA), and Kunshan (China). Voith also operates its own wastewater treatment plants at our São Paulo, Garching and West Monroe (USA) locations. We work consistently on closing water cycles wherever it is economically feasible and have now achieved this objective in most cases.

Voith's production processes have very little impact on natural bodies of water compared to other industrial operations. Continuous or repeated monitoring of water quality is therefore rarely necessary at our locations, with only a few exceptions. The overall burden of BOD, COD, TSS, heavy metals, nitrogen, and phosphorus cannot be derived reliably owing to the low sampling requirements.

In the reporting period, a limit value was exceeded at our Springfield (USA) location. The site has a permit from the City of Springfield to discharge industrial wastewater, allowing it to discharge used process water into the sewer provided that certain pollutants remain below specified limit values. If a limit is exceeded, in other words if any pollutant levels exceed the threshold specified in the permit, the site is required to report this to the City of Springfield within the timeframe specified in the permit. The site recorded that a copper limit was exceeded and failed to report this to the City within the deadline, resulting in an administrative fine of $ 400 among other penalties.

Fact base
Wastewater by discharge method and quality

To avoid this type of incident occurring again in future, we made technical changes to the system and optimized the reporting management at the location.

Addendum to the 2021/22 fiscal year:
In August 2022, an issue presented at a test bench at our York location (USA). The control system detected a problem and shut down the test bench. Due to issues with the compressors, storage operations were affected by a lack of water, which led to mercury and oil leaking into the test bench's water circuit. The mercury and oil mix was disposed of by a specialist waste disposal company and the oil and mercury bearings were subsequently replaced with water bearings.

4. Products and supply chains

4.1 Product responsibility

4.1.1 Management approach

Voith with its products and services is represented worldwide in the energy, paper, raw materials, transportation, and automotive markets. As these markets have many different requirements, we ensure that the solutions we provide are equally diverse in scope.

Our responsibility – our fields of action

Given the diversity of our product portfolio and the very different market requirements we face, our Group Divisions face a broad spectrum of challenges regarding product responsibility. To identify these requirements systematically and evaluate their materiality, we draw on evaluations of customer requirements as well as the results of our stakeholder survey from fall 2018 (a new stakeholder survey is currently in preparation). We have also evaluated external benchmarks, including those of the German Institute for Ecological Economy Research (IÖW) and ISS ESG.

In conjunction with our Group Divisions' assessments and evaluations, we define the main areas of action for our company regarding product responsibility as follows:

- Quality and reliability of products and services
- Maximum product safety
- Product longevity
- Resource efficiency of products
- Minimizing environmental impact of products

Orientation toward megatrends

Led by the CTOs of the respective Group Divisions, we have developed future scenarios for energy, water, paper, mobility, and the environment, extending through to 2040. Key technologies and potential business segments have been identified and prioritized. In this process, the megatrends of decarbonization and digitalization play a key role, as does the circular economy principle. These factors shape the future scenarios derived in each of the Group Divisions and feed into each Division's definition of its strategic objectives:

- **Decarbonization:** Voith intends to contribute to decarbonization and to achieving the goals of the Paris Agreement. To this end, we are focusing on promoting hydropower and wind power as viable renewable energy sources. We are also working on systematic drivetrain electrification and alternative drives such as hydrogen technologies to enable environmentally friendly mobility. In addition, we are developing new solutions for relevant sub-processes in paper production to make more efficient use of renewable energies, thereby increasing process efficiency and energy recovery.

- **Digitalization:** We see digitalization as an opportunity and combine our long-standing automation and IT expertise with our know-how from hydropower, paper machines, and drive technology. We are developing customer-oriented solutions in our core business that drive digital transformation in key global industries. This enables a reduction in energy expenditure and resource consumption, while extending the service life of the plants we supply and equip with Voith systems.

- **Circular economy:** Voith drives innovations that contribute toward closing cycles in our industries and thus promoting resource conservation.

Research and Development

Annual Report 2023, p. 23 ff.

Fact base
R&D expenditure

Our success relies largely on our technological expertise and our ability to consistently apply our know-how in innovations that create tangible added value for our customers. This is why R&D has always been a top priority at Voith and why we continuously invest in R&D activities: an investment totaling over € 1 billion in the past five years. Even in times of crisis, we deliberately keep our R&D commitment high. As a result, the Voith Group's R&D expenditure of € 232 million in the 2022/23 fiscal year was above the previous year's level (€ 213 million). As a percentage of consolidated sales, the Voith Group's R&D ratio was 4.2 % (previous year: 4.4 %). Voith holds several thousand active patents worldwide, with several hundred new ones being filed each year.

Dialog with our customers

Maintaining close customer relationships and a keen understanding of customer needs has always numbered among our strengths. All Group Divisions are in constant contact with their customers, who also play a key role in trend analyses. In joint working groups with customers, we identify current and future trends, and subsequently define and implement joint projects. In addition, we conduct regular, standardized surveys on customer satisfaction and future requirements for the performance and sustainability of our products. Development collaborations with selected customers have also proven effective in jointly developing solutions that offer the greatest added value on both the customer and supplier sides.

4.1.2 Reliable and safe products

Voith is world-renowned for safety, quality, and reliability. We are fully aware of the value of this competitive advantage and have set out the principles of our quality and technical risk management processes in two Group Directives that apply to all Voith companies worldwide. The Group Divisions and their companies expand on the respective Group Directive and supplement them with additional regulations. This provides a clear and binding Group-wide framework for the management and objectives of quality, risk, occupational safety, environmental protection, and occupational health.

Internal company benchmarking

Uniform KPIs across the Group enable benchmarking within the context of the company and relevant industrial sectors. The corresponding performance indicators are regularly reported to the Corporate Board of Management. Our measures are reviewed in internal and external audits, in which our suppliers are also closely involved.

Fact base
Quality targets

The international Quality Management standards DIN EN ISO 9001, DIN EN ISO 14001 for environmental protection and DIN EN ISO 45001 for occupational safety are particularly relevant to Voith. Virtually all Voith locations are certified to at least one of these standards, with the majority of them meeting all three. Voith Hydro meets the aforementioned standards at all its locations, as well as a number of additional internal standards. Voith Turbo also meets industry-specific quality standards such as IATF 16949 (International Automotive Task Force) and ISO/Technical Specification (TS) 22163.

Fact base
Certifications

Voith products always meet the statutory and regulatory requirements of the countries we supply. The respective EU Directives, such as the Machinery Directive 2006/42/EC, provide the basis for the minimum requirements for product safety worldwide. Our Group Divisions are responsible for implementation, while the relevant Quality Assurance departments ensure process compliance. Our Quality Management system also defines how to fulfill the respective statutory product documentation requirements and how the products are to be labeled. Besides internal technical documentation, operating instructions provide information on the intended use of our products and on how to handle them in a technically and environmentally responsible manner. Our Quality Management system also specifies the correct procedures for decisions that entail risks.

Product safety in the Group Divisions

Voith Hydro

Voith Hydro provides its customers with safe systems throughout their entire service life. In addition to occupational health and safety protection, plant safety is a top priority for us and applies to all products and services of the Group Division. On the customer and employee side, we have established the Voith HydroSchool, a permanent training institution offering a comprehensive training program (see p. 63).

Among other things, we use the recognized Failure Mode and Effects Analysis (FMEA) method for risk analysis. It is used to identify potential product defects before they can occur and by taking appropriate measures, potential faults can be avoided in advance.

All products must at least meet the safety, health, and environmental requirements of the relevant EU directives, irrespective of the market area. Risk Assessment Sheets are available for all machines and products, both in relation to the European directives or any national directives that exceed their scope.

Strictly specified construction rules

The construction rules for all Voith Hydro components and products are defined in design manuals. Product safety is ensured in the design process through compliance with industrial standards and, where necessary, also through Life Cycle Assessments (LCAs). For this purpose, the component stresses determined from numerical analyses (e.g. finite element method) are evaluated with the aid of relevant rule sets such as the Computational Strength Assessment Guideline (FKM). If necessary, supplementary material

tests for service life durability are performed on materials and environmental conditions. To ensure the accuracy of the calculations for modeling, measurements are also carried out during operation of the hydropower components. For example, pressure fluctuations, vibrations, and strains on critical components can be measured in the relevant operating states.

Safety tests are always carried out, both during the manufacturing process and during installation and commissioning. For all products and components, an Inspection and Test Plan defines the specific test criteria and responsibilities, as well as the documentation requirements: During commissioning, each machine undergoes a clearly defined test phase, the results of which are logged. All essential functions and signals, from idle to full load, are verified, as is compliance with the limit values. The scenarios investigated include boundary states up to emergency shutdown at maximum load. The machine is only passed for commercial operation once the contractually agreed test program for verification has been completed.

Monitoring until use

In line with its Business Management System, Voith Hydro continues to monitor its products during the use phase for potential safety risks and major machine damage. In doing so, we always adhere to product liability law and its specifications regarding active product monitoring. In the event of a safety risk or safety-relevant event, Voith Hydro informs customers immediately and always in accordance with legal requirements. To ensure best possible safety for our customers and their systems, all safety-relevant information on Voith Hydro products is also documented in the operating manuals.

Voith Paper ↓

Quality Management principles at **Voith Paper** are documented in guidelines, formal processes, and work instructions. Necessary safety tests and the corresponding documentation are implemented via internal ERP systems in line with Voith Quality Specifications (VQS). These include the technical specification, the test specifications, and the quality assurance agreement for products and product groups. The content is created by the respective specialists and approved for release by trained and authorized personnel. Mandatory tests (e.g. dimensional, magnetic particle, dye penetrant, or ultrasonic tests) are used to fundamentally test possible impacts on the environment, health, and safety. These tests are carried out on the basis of clearly defined specifications and checklists. Various tools are used to continuously improve processes, such as Ishikawa analyses, FMEA, and A3 or 8D reports. Since mid-2022 we have also applied the Design Review Based on Failure Mode (DRBFM) method, describing and logging it in the stage-gate development process and the correspondingly adjusted work instructions.

Complete protection along the value chain

The entire internal value chain is protected by certified product development, comprehensive safety measures and compliance with standards such as IEC 62443, ISO 27001, and General Data Protection Regulation (GDPR). Specially trained employees perform risk assessments as early as the product development stage. Virtual walk-throughs are carried out on detailed 3D designs to uncover any safety deficiencies. Standard products and components are tested as prototypes in industrial applications before being launched on the market as part of the stage-gate process. For example, all roll covers and QualiFlex press sleeves under development undergo extensive service life and load tests. In addition to verifying performance, the focus is on safe operation. The necessary validations are carried out as part of internal and factory assembly and commissioning. Independent quality experts are core members of the project teams, providing quality assurance from receipt of order through to customer handover.

During the use phase, the continued safe operation of systems is ensured by a standardized product monitoring process, which is clearly defined in process and work instructions. It not only relates to Voith products available in the market, but also includes products from competitors.

Seamless electronic monitoring of machines
Roller test benches employ thermographic systems and vibration-measuring devices to monitor flawless running around the clock. Potential fault causes are precisely documented and serve as the basis for measures to improve the products. In addition, Service and Sales employees regularly visit many customers to measure the performance of consumables such as fabrics and roll covers. These specialists also create comprehensive product and system safety records, thereby ensuring the greatest possible safety for our customers.

Protection of operating personnel
A paper machine is a demanding work environment in terms of product requirements and for the personnel operating the machinery. An experienced operator adjusting a suction roll operates in close proximity to the paper web, which poses an immediate danger due to the risk of crushing and injury from rotating components. With the Voith AR-Suction-Roll app, roll components (e.g. sealing strips and format limiters) that are not visible to the operator can be visualized on an iPad from a safe distance using augmented reality. In this way, employees can efficiently adjust the position of these components in relation to the paper web without placing themselves in danger.

All Voith Paper products are supplied with comprehensive operating manuals that contain detailed safety instructions in the prescribed languages.

Voith Turbo

Voith Turbo sets the highest demands on the safety of its products and has documented this in its safety guidelines. The Group Division sets corresponding targets and closely monitors their achievement. Product safety is an integral part of all processes, including preventive methods such as FMEA. Each year, Quality Management reviews the achievement of safety targets, assesses safety-related incidents, and takes appropriate measures wherever needed.

Voith Turbo assesses its products for their safety and potential health impacts. In doing so, we consider a large number of relevant criteria from functional safety, explosion and fire protection, to electrical safety and electromagnetic compatibility. Throughout their service life, the products are carefully monitored for safety and reliability. Depending on the applicable contractual, legal, or governmental requirements, systems such as Entity in Charge of Maintenance (ECM) are applied. Moreover, some products are monitored online, such as the DIWA automatic transmissions in a city bus fleet of over 1,000 vehicles in Dubai and Abu Dhabi (United Arab Emirates). This enables proactive maintenance, which helps prevent unexpected downtime. Remote online monitoring can also be implemented for Voith Schneider Propellers (VSP) for maritime applications via an extended sensor system. Work is currently underway on developing a corresponding Condition Monitoring System that will enable continuous monitoring.

Further information:
DIWA automatic transmissions

Voith Turbo provides its customers with all relevant safety information. This can be found, for example, in Material Safety Data Sheets, product declarations (REACH, International Material Data System (IMDS), etc.), fire protection certificates for materials, and safety requirement specifications for risk assessments (Conformité Européenne (CE), etc.). Customers are also made aware of possible risks in the operating instructions for drive units; these instructions also describe the correct handling of work materials from a safety and environmental perspective.

Wherever necessary, Voith Turbo supports its customers in the authorization and approval of products and supplies the necessary documentation and registration papers. The Group Division's experts are involved in the creation of safety concepts from the product development phase and check their implementation right through to joint validation with the customer. If the need arises, components are put into operation with the customer at their own production facility.

Employee training

Voith Hydro

Voith Hydro trains both its own employees and its customers' employees in applying relevant specifications and in dealing with the corresponding framework conditions and regulations. These are available on our Group-wide databases and through internal communication channels. We also offer training to our customers at our Training Center, directly on location, or via digital media and channels.

Skilled specialists with many years of experience in Voith HydroSchool courses, as well as comprehensive on-the-job training, ensure that our customers' employees are taught to implement the requirements for safe conduct in the daily operation of the machinery and continue developing their knowledge into the future. Since the start of 2020, Voith HydroSchool has also provided online training courses, thus enabling remote learning. Moreover, individual webcasts can be repeated when required, making it easier to build up and retain knowledge in the long term. Since 2023, our customers have access to e-learning courses and virtual discussion rooms for exchange with our experts via an individual learning platform.

Customer safety training

The topic of safety carries particular weight in Voith HydroSchool's customer training courses. Its significance is reflected in the number of customer training courses on this topic, including:

- Safety by Design Principles and Case Studies: A one-day seminar on the fundamental safety requirements for hydropower plants with combined case studies on damage and accidents
- Application and Fulfillment of EU Directives on Machine and Plant Safety: A seminar sharing specialist expertise combined with practical examples to prepare our customers for the complex process of CE marking
- Training programs tailored to individual customers that can be repeated regularly
- Topic-specific training series that help customers visualize the learning progress of their employees through evaluable tests
- Mentoring and train-the-trainer programs for sustainable knowledge-building by on-site users

Voith Paper

Voith Paper conducts extensive training for all operating personnel at its customers' facilities. It is based primarily on the detailed Machinery Directive, which applies to all manufacturers, as well as findings from our own product monitoring process. Training is usually delivered in group sessions and directly at the machinery. Virtual reality, webinars, and digital training methods developed in the PaperSchool are also utilized. In addition, Voith Paper conducts required training directly at the paper machines during scheduled service visits. These training sessions have proven to be particularly effective as they take place directly where the product is used. Furthermore, Voith Paper customers have access to experts for questions and joint problem solving via the On-Performance.Lab and other remote connections. The solutions from our digital portfolio (OnCumulus, OnView, OnEfficiency) always include service delivery through the OnPerformance.Lab to ensure best possible results.

Voith Turbo

At **Voith Turbo** all employees are trained in quality topics. In addition, customers receive comprehensive information and training on the safe operation of products. Several quality programs are currently underway to further increase product and service reliability throughout their lifecycle. At the same time, Voith Turbo seeks a close relationship with operators and manufacturers to allow their experience from the daily operation of systems and applications to feed into the product development process.

Chapter
Management of waste and hazardous materials

Requirements for substances of concern and hazardous substances

All Voith Group Divisions comply with the relevant rules and regulations for the handling of substances classified as hazardous and dangerous under the REACH Regulation and excluding them from further use.

Voith Hydro

EU Directives such as the REACH Regulation are particularly relevant to **Voith Hydro**. The Group Division thoroughly applies the Candidate List, the List of Substances Subject to Authorization (Annex XIV), and the List of Restricted Substances (Annex XVII) in accordance with the REACH Regulation. The centrally managed Group Standardization Department is responsible for implementing and complying with these regulations. The central Technical Department has already identified substances that will likely be banned by REACH in future, and appropriate replacement options are currently being assessed in a development project.

If asbestos is found in old machinery during modernization projects, specialized companies ensure its proper disposal and full compliance with all applicable rules and regulations pertaining to this substance. The exact procedure is set out in a Group Division Directive.

Voith Paper

The REACH Regulation is also decisive for **Voith Paper**. None of the free chemical substances contained on the REACH (Annex XIV) list enter the market in our products in the EMEA region. When new substances are added to the list, Voith Paper reviews their use and, where necessary, identifies a harmless substitute that is then tested and introduced. When developing new products, it is crucial that they not only meet market requirements but are also safe in terms of environmental and health protection. The Voith Product Development Process (stage-gate process) guarantees that all product developments undergo HSE testing. Specifically, 2 – 5 test dates are set for the gate meetings, in which potential environmental hazards of the product are also considered. Open points in HSE are exclusion criteria for moving the project on to the next stage.

Voith Turbo

Voith Turbo products are subject to a wide range of regulatory requirements for the handling and categorical exclusion of hazardous substances and those of very high concern. For example, EU regulations such as the REACH Regulation, the RoHS (Restriction of Hazardous Substances) Directives, and the German Battery Act (BattG) apply. Other factors include railroad fire protection standards, the Group's own specifications on hazardous substances, specific customer requirements, and guidelines from associations such as the Rail Industry Substance List and IMDS for materials used in the automotive industry. Wherever technically and economically feasible, harmful substances are avoided or replaced by alternative substances as early as the engineering phase.

4.1.3 Product responsibility by Group Division

Our products are further developed on a continuous basis, making them increasingly environmentally and resource friendly throughout their whole lifecycle. This enables us to meet our customers' demands, statutory regulations, and ultimately our own high standards. Conserving resources and minimizing the environmental impact of our products are therefore top priorities for all Group Divisions. For some projects, potential sustainability impacts are critically analyzed as part of an internal risk assessment even before submission of tenders. To achieve this, we pursue a decentralized management approach to take sufficient account of Group Division-specific particularities.

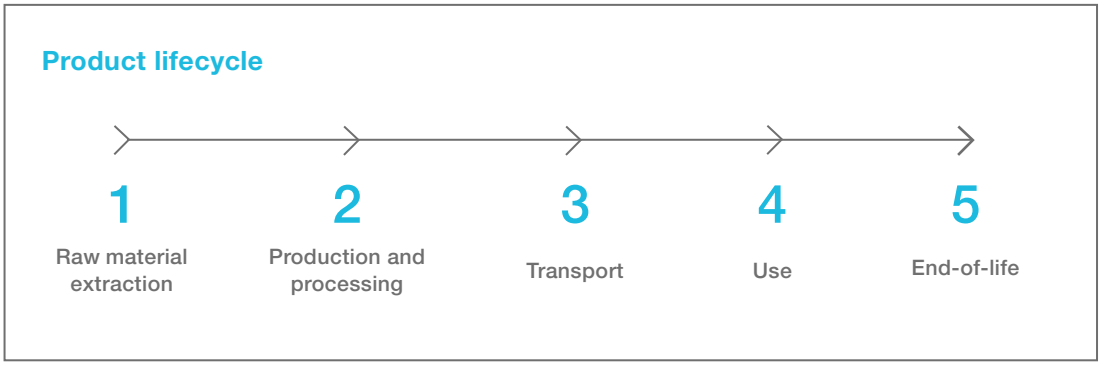
Optimization of raw material efficiency through Life Cycle Assessments

We mainly supply components that, as part of an overall system, have differing energy and material footprints. We use a range of instruments to gain an even more detailed understanding of our products' energy and raw material efficiency and thus enable optimum resource utilization in the use phase. In the case of products, we sometimes work with Life Cycle Assessments (LCA) in accordance with DIN ISO 14040 and 14044 (are used to analyze the potential environmental impact of a product system over its full lifecycle), and with Product Carbon Footprint (PCF) calculations in accordance with ISO 14067.

Conducting LCAs and PCFs is an increasingly important aspect of product development. The insights gained from them help identify the greatest leverage points for environmental impact and where to take appropriate action. This ensures that only products with the lowest possible environmental impact will ultimately reach the market.

Calculations in all lifecycle phases

Depending on product type and project objective, LCAs/PCFs are calculated within two different system boundaries. For the first of these, LCAs/PCFs are calculated for the cradle-to-gate system boundary, i.e. from raw material extraction to the factory gate. Our customers can then use the results of these calculations for their own analyses. For the second, LCAs/PCFs are generated in the cradle-to-grave system boundary, i.e. from raw material extraction to their ultimate disposal. These calculations are primarily used internally in product development and comprise the five phases of the product lifecycle:



The corresponding analyses consider greenhouse gas emissions, hazardous substances (carcinogenic, non-carcinogenic, and ecotoxicity), substances in the REACH Regulation, particulate matter pollution, and use of minerals, metals, energy, and water.

Fact base
Further information on conducted Life Cycle Assessments

As Voith products are often not serially produced, LCAs/PCFs are not carried out for every product. However, we successively prepare corresponding analyses for high-turnover products and for new technologies that are still under development. In recent years, several LCAs/PCFs have been completed for a range of product groups.

Voith Hydro

The Voith Hydro Group Division develops customized, long-term solutions and services for hydropower plants around the world. Its broad portfolio of products and services covers the entire lifecycle and all essential components for large and small hydropower plants, from generators, turbines, pumps, and automation systems to spare parts, maintenance, and training services, as well as digital solutions for intelligent hydropower plants.

Product group	Share of Group Division orders received in %
Components for large hydro (including refurbishments)	73.3
Components for small hydro (including refurbishments)	6.8
HyService and automation (with digital products)	19.8

Voith Hydro is frequently active in countries where only a section of the population has access to electricity. Access to electricity is one of the basic prerequisites for regional development and poverty reduction. The expansion of hydropower in these areas not only enables the supply of electricity, but also generates added value and creates local jobs. In addition to large-scale plants that feed electricity into public power grids, small hydropower plants are also in use to supply individual companies or communities with electricity, thus generating power where it is needed.

Sustainable energy supply from hydropower

Further information: Comparison of power generation technologies

Voith Hydro supplies hydropower, the largest renewable energy source worldwide. As a proven, mature, predictable, and competitive technology, it combines low carbon emissions with an unrivaled efficiency of up to 90 %. In addition, hydropower plants have extremely reliable operation and a service life of up to 100 years.

Energy Payback Ratio (EPR)

The importance of hydropower is also underlined by the commonly used energy KPIs: Energy Payback Ratio (EPR) and Energy Return on Investment (EROI). They are calculated by dividing the electricity output during the normal service life of a plant by the energy required for its construction, maintenance, and operation. A high EPR indicates a highly energy-efficient system. Scoring 267 (for run-of-river power plants) and 205 (for storage plants), hydropower has the highest EPR of all methods of power generation. In comparison, fossil fuels only achieve a value of between 3 and 11, large wind farms 39, and nuclear power 16. To further improve the EPR, we are focusing not only on product efficiency, but also on reducing the energy required in production at our facilities.

Voith is convinced of the benefits of hydropower and intends to further strengthen its role in the energy transition. As a flexible and grid-stabilizing energy source, hydropower enables the integration of wind and solar power into the grid. Hydropower is therefore an essential pillar in achieving the local and global CO_2 targets set by policymakers.

International Hydropower Association

San José Declaration on Sustainable Hydropower

Even with hydropower projects, however, the greatest possible sustainability can only be assured if all stakeholders work together, and all diverse aspects are considered. For this reason, Voith has been a member of the International Hydropower Association (IHA) for many years and signed the San José Declaration on Sustainable Hydropower in September 2021. In doing so, Voith Hydro recognizes sustainable hydropower as a clean, green, modern, and affordable solution to climate change. The declaration also contains a number of principles and recommendations for sustainable hydropower, including a clear rejection of hydropower development in UNESCO World Heritage Sites.

Hydropower Sustainability Council

In this fiscal year, Voith Hydro was again represented on the Hydropower Sustainability Governance Committee (HSGC), a multi-stakeholder group that administers the Hydropower Sustainability Standard. This industry standard was introduced in September 2021 and helps assess the ESG performance of hydropower projects. If projects meet or exceed international good practice requirements, they are allowed to use the “Certified Sustainable Hydropower” label. Voith Hydro supports certifications according to this standard and encourages its customers to use it to demonstrate the sustainable development and responsible operation of their hydropower projects.

Shaping the future with hydropower

Consistent future scenarios for energy and water were formulated several years ago, revealing the following starting points for the future-oriented further development of hydropower plants:

- Voith supplies highly efficient pumped storage plants that can store large quantities of renewable energy with a high level of efficiency. The use of water as a storage medium and the almost complete recyclability of the materials used make pumped storage the ideal storage system for renewable energy. Today, over 90 % of electrical energy storage is based on pumped storage. Pumped storage power plants that work with a completely closed water cycle and are therefore not reliant on extracting water from natural reservoirs are currently being planned and implemented.

- With their high number of full-load hours and low generation costs, hydropower plants are ideally suited to the production of synthetic fuels and chemicals needed for decarbonization. In addition, hydropower is a key technology for the production of green hydrogen, i.e. hydrogen produced from renewable sources. In particular, run-of-river power plants with their relatively low costs offer ideal conditions for optimally utilizing electrolysis plants. No risks associated with decarbonization have currently been identified, since the demand for both renewable energy and energy storage systems is set to increase.

- Classic hydropower generators as phase shifters with rotating masses (synchronous condenser) can react to grid disruptions within seconds due to their large mass inertia, thus making a significant contribution to grid stability. This capability will become increasingly important as greater numbers of fossil fuel power plants are replaced by wind and solar. Voith Hydro generator technology provides solutions for this and offers several technical advantages over conventional turbo generator applications due, for instance, to higher inertia constants.

- To counteract the capacity reduction of reservoirs due to sediment deposits, we have developed a tailor-made, environmentally and fish-friendly solution, the SedimentCareProgram. The process combines sustainable and undisturbed power plant operation with continuous sediment transfer. The plant operator benefits from maximum availability and increased productivity over the entire lifecycle of the hydropower plant. The basis for this program was close communication with several of our customers and an initial contract has been concluded with a customer in Austria. A test phase of the project began in this reporting year, and the productive phase of this pilot project will begin in March 2024. Product development continues and environmental certification is already in the planning.

SedimentCare Program

- Together with our customers, we store technical and system-relevant data from power plants and their infrastructure securely in the cloud. This allows us to visualize and analyze operational processes and develop self-learning models for informed, future-oriented decision-making. Digital solutions monitor the physical assets and environment of hydropower plants, enabling us to improve safety for people, critical components, and the environment. At the same time, our intelligent cybersecurity solutions counter the increasing threat of digital attacks and thus fulfill the increased cybersecurity requirements for large hydropower plants.

More environmentally friendly hydropower

Voith technologies play a decisive role in minimizing the environmental impact of hydropower plants – from improving water quality through aerating turbines, through oil-free hubs that prevent water contamination, to innovative runners that improve fish passage, and novel concepts that facilitate sediment transport. Voith Hydro also works tirelessly to further minimize residual environmental impacts. Tighter environmental protection standards and stricter legal framework conditions also require hydropower to make an ever-greater contribution to sustainability. Voith not only meets this challenge itself, but also provides its customers with the required technology. We work with suppliers, environmental authorities, universities, and our customers to find the most sustainable and energy-saving solutions possible.

High-tech for environmental protection

Voith StreamDiver compact turbine

We want to make hydropower even more sustainable through targeted research. With its comprehensive approach, Voith covers everything from fish protection and water quality to energy efficiency. For example, the Voith StreamDiver compact turbine can be operated entirely without oil. The machine has water-lubricated bearings and therefore does not emit any lubricant into the water flow. This protects sensitive hydrophilic ecosystems from potential damage caused by spillage of even minute amounts of oil.

The five StreamDiver variants with a power output of around 50 kW to 1,450 kW per unit can be integrated into a wide variety of installation situations, such as existing dams and weirs, in a particularly cost-effective manner. Instead of a powerhouse, a space-saving e-container is all that is required, making a silent power plant with minimal construction effort possible.

Excellent feedback

University of Notre Dame Procurement Partner Sustainability Award

In 2022, ten StreamDiver turbines, each with a power output of 250 kW, were put into operation as part of the Notre Dame Hydro project in the USA. With their clean and renewable electricity, they make the largest contribution to date to the University of Notre Dame's goal of becoming carbon neutral by 2050. Voith Hydro North America was awarded the University of Notre Dame Procurement Partner Sustainability Award in recognition of its exemplary innovations, products, and services.

Continuous optimization of fish passage

Voith also offers hydropower plant operators the ability to assess environmental aspects such as fish passage through turbines. These and other analysis methods are continuously used to develop new types of turbines with improved fish protection, for example on the Columbia River and Snake River in northeast USA, where Ice Harbor's new Kaplan machine was put into operation in the reporting year. There are also innovative concepts such as the Alden turbine, which operates with just three rotor blades and at reduced speed, reducing collision injuries in fish. The Minimum Gap Runner turbines developed by Voith in turn use a completely spherical hub and periphery. What is more, pressure changes can be reduced through the shape of the runner blades, thereby optimizing water pressure for fish passing through the turbine. The efficiency of such measures is demonstrated by surveys of the run-of-river power plant in Washington State, where researchers were able to prove that over 98 % of fish passing through the plant survived. Additional measures, including behavioral barriers and bypasses, further increase power plant passage.

Special focus on the European eel

For more than 50 years, Voith has incorporated environmental aspects in its development of mechanical and electrical power plant equipment. Voith Hydro regularly participates in research programs to develop innovative concepts and methods for fish protection, such as the EU FITHydro project, coordinated by the Technical University of Munich, Germany, and the FINI project led by the University of Innsbruck, Austria, which focused on low-pressure power plants. In the reporting year, a turbine that is designed to be gentler to European eels than previous water turbines was developed and model tested. As eels are migratory fish, establishing the safest possible turbine passage is of particular relevance. Voith is currently looking for cooperation partners to help test this newly developed turbine technology under real-life conditions.

Oxygen supply for bodies of water with the help of blades

Another technology that has been increasingly developed in recent years and has been implemented in several projects in the USA is the aerating turbine. Here the blades of a Francis turbine are used to mix air and thus oxygen into the river water as evenly as possible. As the oxygen content in rivers can become very low when the water warms up during the summer months, this technology can help improve water quality by increasing the oxygen content in the water and sustaining the river's ecosystem for the fish population. Over thirty turbines with this technology have already been put into operation and more are in development.

We also drove forward further innovations to protect the environment in the area of generators. The high-voltage insulation system, which uses a new chemical component to further reduce environmental impact, was taken to the next stage of development. From the 2023/24 fiscal year, Voith will also be participating in the newly established working group "Study on Eco-Design, Circular Economy and Impacts on Generator Production Process" of the CIGRE (Conseil International des Grands Réseaux Électriques).

Megatrend decarbonization – greater energy efficiency, fewer greenhouse gas emissions

On the journey toward climate neutrality, Voith Hydro is continuously working to bring products with an ever-smaller carbon footprint to market. Pumped storage power plants are a proven and efficient method of storing energy: Due to their flexibility they are an important prerequisite for integrating fluctuating energy generation from wind and solar power.

Continuous efficiency optimization

Voith Hydro contributes to decarbonization by continuously improving the efficiency and therefore the energy efficiency and carbon footprint of its products. Efficiency optimization is continually in focus in product development across Voith Hydro's full product spectrum. While energy consumption in production is an important cost factor, the energy consumption of hydropower plants in operation is of lesser significance.

The generation efficiency of our plants is also the dominant evaluation criterion for our customers. Continuous optimization of energy efficiency is therefore key to ensuring our products remain competitive, and our sustainability and business objectives are met. To this end, Voith operates test rigs at its Brunnenmühle Hydropower Research & Development Center in Heidenheim, Germany, that are among the best of their kind worldwide. Regular tests and model acceptance trials are carried out here, allowing various parameters to be analyzed before the turbine is built: efficiency, maximum output, throughput speed, hydraulic forces, as well as the dimensions of the machine and the cavitation behavior at different operating points. These also serve as proof of guaranteed parameters and safety in extreme situations. In addition, Voith Hydro's development departments have access to state-of-the-art supercomputers, enabling them to carry out advance development at the highest level.

New turbine governors for oil and energy savings of up to 90 %

In May 2021, the Voith Hydro Group Division presented a new generation of hydraulic turbine governors, the HyCon GoHybrid. They combine the safety of conventional systems with the advantages of new technologies, particularly regarding potential savings in oil and energy consumption. The new governor reduces the amount of oil required by up to 60 % compared to conventional high-pressure units, and by up to 90 % compared to low-pressure units. At less than 10 % of the energy that a conventional unit would consume, the projected energy savings were actually exceeded. Initial applications have confirmed the expected savings in operation.

GoHybrid Sweden

In addition, GoHybrid does not generate any noise during control or pump operation, thus improving the working environment in the power plant. In Sweden, a new turbine governor was successfully commissioned for the Nain project in the reporting year and a new contract was signed for a larger GoHybrid model.

Pumped storage power plant Frades II

Smart hydropower technologies for low-carbon, reliable, and stable energy system

Voith Hydro has taken a leading role in the EU-funded XFLEX HYDRO project. Over the four-and-a-half-year project period until early 2024, the objective has been to demonstrate how smart hydropower technologies can enable a low-carbon, reliable, and stable energy system. Voith Hydro has supplied two variable-speed pump turbines, two asynchronous motor generators, frequency converters, control technology, as well as steel hydraulic engineering components for the Frades II in Portugal. As part of the project, Voith Hydro leads the development and implementation of additional solutions to make the Frades II demonstrator even more efficient. The goal is to extend the power range by operating the variable-speed machines in the short hydraulic circuit, which increases the availability of renewable energies in the energy mix. By optimizing plant operation using multidimensional maps and optimized operating transitions, maintenance intervals are extended and downtime is minimized. In addition, power plant efficiency is increased by optimizing and reducing the power consumption of auxiliary operations. The intelligent power plant control system developed by Voith in this project was installed in the 2022/23 fiscal year. It was presented to our project partners, EU representatives, and further stakeholders at an official information event in July. Furthermore, as part of the demonstration of the more flexible operating modes in the power plant, extensive measurement data was collected, which contribute significantly to the final, quantitative evaluation and summary of the flexibilization measures.

Megatrend digitalization – toward the smart hydropower plant

Full-lifecycle solutions for predictive maintenance as well as for the repair, overhaul, upgrading, and retrofitting of Voith Hydro products help to conserve resources while increasing efficiency. Residual service life calculations are applied here that allow the degree of wear, and the residual service life to be determined by analyzing the mode of operation and performing specific system measurements. This means that maintenance and servicing work does not have to take place at fixed intervals, but can be based on wear, thereby making better use of materials.

Against the backdrop of digitalization, Voith Hydro sees the development of sensor technology as a key prerequisite for enhanced connectivity on the journey to making the smart digital power plant a reality. Voith Hydro founded the OnPerformance.Lab back in 2018. Here, Voith Hydro specialists analyze operating data from hydropower plants and provide specific recommendations for improving productivity, avoiding unplanned downtime, and optimizing plant safety. Numerous hydropower plants already use analysis services such as remote support and Digital Health Assessments from the OnPerformance.Lab. The assessment is carried out by aggregating several hundred operating signals and the parameters derived from them into standardized diagnostic key figures. This allows the current technical state of health of a plant to be displayed simply and clearly. In addition, initial individual optimization approaches are defined within the scope of co-development projects, according to the plant type. The high level of interconnectivity offered by the individual systems permits automated analysis, a unique design feature. New Industrial Internet of Things solutions combined with the know-how of our experts from the OnPerformace.Lab are enabling the transformation of the system into a smart hydropower plant.

Anticipating planned and unplanned outages with new sensor technology
Our focus remains on optimizing the maintenance, servicing, and operating process with proprietary software and service solutions. In addition to developing purely data-based approaches for pinpoint prediction of unplanned outages or maintenance work, we also advanced the development of new sensor technology. Further pilot systems were installed in the reporting period to validate new sensor technologies. Numerous power plants are now digitally connected to Voith Hydro, which allows various approaches to remote maintenance and optimization to be tested in practice.

One noteworthy example from this reporting year was the Vianden project in Luxembourg, where following the successful implementation of OnCare.Asset for one machine, our customer then opted to use the system for additional units. The benefits of using OnCare.Asset include higher productivity of maintenance personnel, more efficient spare parts management, reduction in overhauls leading to greater resource efficiency, greater transparency through central planning, better transfer of plant knowledge, and improvements in data quality. All in all, our customer estimates that maintenance costs will sink by 15 – 20 % thanks to the optimization of its maintenance strategy with OnCare.Asset.

Long service life, repairability, recyclability – our goal is maximum availability

A decisive quality characteristic of the machines and systems produced by the Voith Hydro Group Division is their long service life, which is also an integral part of plant specification. Hydropower plants are designed for a specific number of operating cycles, which generally guarantees an operating life of at least 40 years. Against this background, all Voith products that are used in a plant can be upgraded, retrofitted, and repaired even after many years.

As part of our HyService activities, we support power plant operators in maximizing the service life and availability of their plants. During inspections and repairs (e.g. cavitation repairs and generator rewinds), we take care to recondition all existing components for further use wherever possible. In the case of modernizations, which are generally due after 30 to 40 years, we strive to achieve an optimum improvement in system efficiency together with our customers, while preparing operation-critical parts of the plant for further use. In particular, the diagnostic evaluations of plant operating data on the current condition of systems, subsystems, and components of hydropower plants support plant operators in the safe operation of the plants and make it possible to extend runtimes until fundamental rehabilitation measures are required.

Multiple use and modularization contribute to resource efficiency

To raise resource efficiency further still and improve the repairability and longevity of products, the Voith Hydro Group Division is increasingly focusing on modular mechanical engineering concepts as well as the targeted use of components that have been proven in previous projects. This is based on our objective of not only designing products and machine components for multiple use, but also making them easy to use. At the same time, reusing designs that have been tested and proven in operation allows us to guarantee the quality of our products. Consequently, we ensure that our products are modularized by using as many identical components as possible. In addition, the best possible qualification of our suppliers ensures optimal product quality throughout the supply chain.

Increasing material efficiency and reducing material costs

A key goal for Voith Hydro regarding the use of materials is a consistent reduction in material costs. In the context of a challenging purchasing environment, characterized by sharp increases in material and energy prices, only isolated savings were achieved in this fiscal year. These derived primarily from technical measures leading to improvements in material efficiency, such as:

Avoiding waste when punching and laser-cutting generator sheets by suppliers optimizing their roller widths	Using burnout waste to manufacture large, welded structures for the production of transport reinforcements	Designing cast and forged semifinished products to approximate their final shape, thereby reducing machining costs

Ensuring 95 % of the materials used for machine sets in hydropower plants are recyclable

Not least because of their very long service life, recycling the materials used in a hydropower plant is an issue that quite literally spans generations. The materials used in a hydropower plant, primarily steel and copper, can be easily and almost completely recycled at the end of the product's service life. For example, the proportion by weight of recyclable materials in the machine sets is more than 95 %. Due to the plant's long service life, the energy consumption required for recycling has very little impact on the overall energy balance. The work that was carried out at the Norfork (USA) and Hammarforsen (Sweden) power plants in the reporting period is an example of how targeted modernization measures can significantly extend the service life of hydropower plants.

Examples of significant service life extension

The hydropower plant in Norfork, USA, consists of two turbines, each with an output of 46.5 MW, and has been in operation since 1950. The modernization targets the plant's entire electromechanical equipment and is expected to last until 2028. As part of the modernization, its overall output will be increased, but more importantly still, the water quality below the dam will be improved thanks to Voith's proven, state-of-the-art technology for increasing water oxygen content using aerating Francis turbines. The increase in output will result in further increases in capacity and efficiency, so that in the future, the power plant will be able to generate more energy using the same amount of water without any greater environmental impact.

Fact base
Further information on social and environmental impacts at Voith Hydro

In the 2022/23 fiscal year, Voith Hydro was also awarded a contract for the comprehensive modernization of the Hammarforsen hydropower plant in Sweden, which is more than 70 years old. In the course of extensive modernization efforts, three turbine sets will be replaced, resulting in increased output through increased water flow. The new Kaplan turbines are turbines with water-filled hubs, an oil-free solution that prevents any oil pollution of the river. The aim of the modernization work at Hammarforsen is to guarantee continued safe operation of the plant for another 40 years.

Voith Paper

The Voith Paper Group Division is a pioneer in the paper industry and a full-line supplier, delivering integrated project solutions from a single source that combine a unique product portfolio with services, digital products and services, as well as project management and consulting. Our products and components reflect our experience as a process provider, helping to increase the capabilities and efficiency of the entire paper production process while boosting our customers' productivity and profitability through reduced resource consumption. Thanks to Papermaking 4.0, paper manufacturers can optimally interconnect their equipment and increase their competitiveness through effective and secure use of the data generated.

Business division	Share of Group Division orders received in %
Projects • New facilities: paper machine • New facilities: stock preparation • Rebuilds	36
Fabrics & Roll Services • Paper machine clothing • Roll shells • Press sleeves	34
Products & Services • Replacement parts • Performance-enhancing components • Services: maintenance and repairs, training, and audits • Smaller modifications to facilities	30

Trend analyses – strategic basis for a sustainable product portfolio

The megatrends of decarbonization, digitalization, and the circular economy are key components of the future scenarios for Voith Paper's business segment that were developed in the Group-wide Scenario Foresight Project. Voith Paper has translated these results into strategic goals to be completed by 2025 and has defined further targets through to 2040. These future scenarios are reviewed annually. Due to recent political and economic developments, in particular the Covid-19 pandemic and the war in Ukraine, a comprehensive revision of the scenario project was begun in 2022 and continued in 2023. Initial results from this revision were that the Covid-19 pandemic underscored the importance of the digitalization trend and strongly accelerated developments in this area. Furthermore, the conflict in Ukraine had an accelerating effect on the decarbonization trend with a particular focus on energy saving. There are indications that a lack of available skilled workers will continue to increase, an issue to which digital solutions can provide at least a partial response. A detailed overview of the latest technological developments based on the Scenario Foresight Project update will be provided in 2024.

In addition, trend developments are systematically recorded and incorporated into portfolio decisions for new developments as well as into business development. Accordingly, Voith Paper intends to optimize the paper production process with innovative products and to enable sustainable, efficient, and resource-saving production, as well as achieving process and technology advances for new low-carbon paper mills. In this way, we aim to continue reducing the environmental impacts of paper production, while increasing plant profitability.

Voith Paper has set ambitious goals for the future of paper production:

1. 100 % carbon-neutral paper production by 2030 using energy-optimized products, digital solutions, renewable power, and innovative solutions

2. 90 % freshwater savings through a completely new paper production process using disruptive technologies by 2030

3. 90 % recycling rate with new fiber streams by 2030

Sustainability criteria considered in product development

The product development process in the Voith Paper Group Division follows the stage-gate method. In the development phase, products undergo an assessment that examines the following key sustainability parameters: water, energy, fibrous raw material, quality, and efficiency. The new Voith Paper strategy focuses on new facilities, spare parts, wear parts, services, digitalization, and rebuilds as the six key business segments that will enable us to focus on the complete product lifecycle as early as the development stage. Safety, efficiency, and sustainability are key differentiation criteria and are of vital importance in generating customer benefit. We are driving these topics forward in joint development partnerships with our customers to assure high sustainability and safety standards. This approach also lays the foundation for modifications and improvements that help our customers save resources in paper and cardboard production and minimize the loss of fibrous raw materials. We are also working on avoiding production disruptions in paper production plants, caused by adhesive contamination of recycled wastepaper.

For example, a newly developed sensor has made it possible to quantify agglomerated and finely distributed adhesive contaminants (e.g. stickies) in the water circuits and to keep them below a critical level by automatically adjusting the reject rate in fine-screening and stabilizing production operations. As a result, fiber losses have already been minimized in three pilot installations in production plants.

Megatrend decarbonization – energy consumption and greenhouse gas emissions

The global paper industry faces the challenge of significantly reducing its carbon emissions. This applies in particular to Europe where, in its Roadmap 2050, the Confederation of European Paper Industries (CEPI) declared its aim of reducing carbon emissions by 80 % compared to 1990 levels – an enormous challenge for the entire paper value chain. The Green Deal agreed by the EU envisages carbon neutrality in the EU by 2050 and stipulates a 55 % reduction in greenhouse gas emissions by 2030, measured against 1990 emission levels.

Voith Paper intends to make its contribution to meeting this challenge and will therefore in future only develop products and services that have a positive impact on energy efficiency and production costs for customers. In 2022, Voith and Koehler entered into a further development partnership focusing on decarbonization, in which the energy efficiency of Koehler's mills will be further optimized, and alternative energy sources validated as future heat sources.

Technologies and processes will be optimized or newly developed in four defined focus areas with the clear aim of reducing carbon emissions and conserving resources in paper production. During the 2022/23 fiscal year, a Decarbonization Roadmap was drawn up to define the further development of our product portfolio with the aim of transforming the use of renewable energies in the paper production process.

1. Process improvements and technologies – potential: 20 % lower carbon emissions
Our ongoing development and enhancement of products and technologies aligns with our goal of lowering energy consumption and is already making an important contribution to reducing carbon emissions. For instance, innovations in fabrics are reducing energy consumption in paper production. The development of a new industrial cleaner product is also playing a part: The completely new design reduces energy consumption by at least 30 %, while enabling a significant increase in throughput without any adverse effect on cleaning performance. Since February 2022, many existing cleaner products have been replaced by the new cleaner, resulting in energy savings of around 10,000 MWh/year. In addition, a modified weaving process developed by Voith was used to produce special fabrics for drying sections of the paper machine. According to our estimates, these will reduce manufacturing time for fabrics by 20 %, also reducing energy consumption compared to standard fabrics.

We are conducting a research project in cooperation with HAMM University of Applied Sciences Lippstadt, Germany, to achieve energy savings in the forming process of paper production. By developing a fundamental understanding of the tribological properties of the forming process, particularly Voith forming screens and their design properties including novel materials, we aim to bring energy savings in the forming section to the highest possible level.

2. Digital solutions – potential: 10 % lower carbon emissions
Digitalization solutions and intelligent, artificial intelligence-based process controls are already improving efficiency and availability at paper production facilities. In future, these will make an even greater contribution to reducing carbon emissions and conserving resources. Determining factors will include the efficiency of the machines used and the optimization of paper production processes. A digital solution launched in the 2022/23 fiscal year visualizes energy consumption and with the aid of this visualization, energy-optimized operation can be ensured.

3. Pioneering innovations in paper production – potential: 50 % lower carbon emissions
Even the mature industrial process of paper production harbors potential for significant reductions in energy consumption and therefore also in the quantity of carbon emitted. This requires fundamental and possibly disruptive new developments. For example, Voith Paper is an active partner in a project for a model mill in the town of Düren in North Rhine-Westphalia, Germany. The project was initiated by the paper industry, supplier industries, and by universities, colleges, and institutes to research carbon-neutral paper production and implement the findings in a pilot plant scale. Since its foundation in 2018-2020, six research institutions and more than 20 industrial partners have joined the Model Paper Mill Consortium. The research agenda of the consortium's roadmap project focuses on approaches such as developing new methods and processes, research in the areas of fibrous raw materials and additives, innovative energy supply systems, and process optimization through digitalization. In the first FOREST (Framework for Resource, Energy, Sustainability Treatment in Paper Production) joint project, Voith is already engaged in developing a digital twin as a basis for the intelligent control of energy use in operations. Voith is also working with Essity, a well-known manufacturer of sanitary paper, on a disruptive paper production process that requires up to 95 % less water and 40 % less energy, meaning that carbon emissions can drop to zero given the availability of green electricity. Following successful trials on a laboratory scale, the concept is now being implemented in a dynamic process.

4. Renewable energies and energy storage – potential: complete reduction of carbon emissions
Voith is working on solutions to integrate renewable energies such as hydrogen, biogas, and green electricity into the paper production process. A technological expansion in energy recovery using heat pumps or steam compression systems also offers tremendous potential for effecting reductions in carbon emissions.

Another focus area offering great strategic leverage is the use of energy from residues and production wastewater. Voith is already using anaerobic reactors to purify water and generate biogas, thus reducing the proportion of energy from fossil fuels and contributing to the decarbonization of paper production. For example, a customer from Germany was able to save 10 % of fossil fuel resources by using the biogas produced from anaerobic wastewater treatment. Energy storage technologies make it possible to further minimize energy losses and to produce cost-effectively, even under difficult conditions such as fluctuations in the price and availability of renewable energies.

Megatrend digitalization – an opportunity for differentiation

Digitalization offers Voith Paper the opportunity to use its core strengths to differentiate itself more strongly from its competitors. The digitalization of highly complex paper production processes will determine competitiveness in the future. In the project business, Voith Paper aims to set the necessary standards in plant engineering for scaling and sustainably implementing digitalization by incorporating digital thinking at an early stage. The focus here is on developing intelligent products and cloud-based data analysis techniques. The aim is to prepare both instrumentation and automation for the digital age under the banner of the Papermaking 4.0 product family. For instance, we are working on increasing the availability of paper machines and on improving process efficiency, which also includes predictive maintenance solutions.

Megatrend circular economy – using resources efficiently

Voith Paper has enjoyed many decades of market success with recycling technologies for wastepaper as a raw material for paper production, for wastewater, and for rejects. Today, the Group Division leads the market in feedstock preparation solutions and generates most of its sales with paper production plants that process recovered paper. In the stock preparation area, paper recycling plants account for almost all sales.

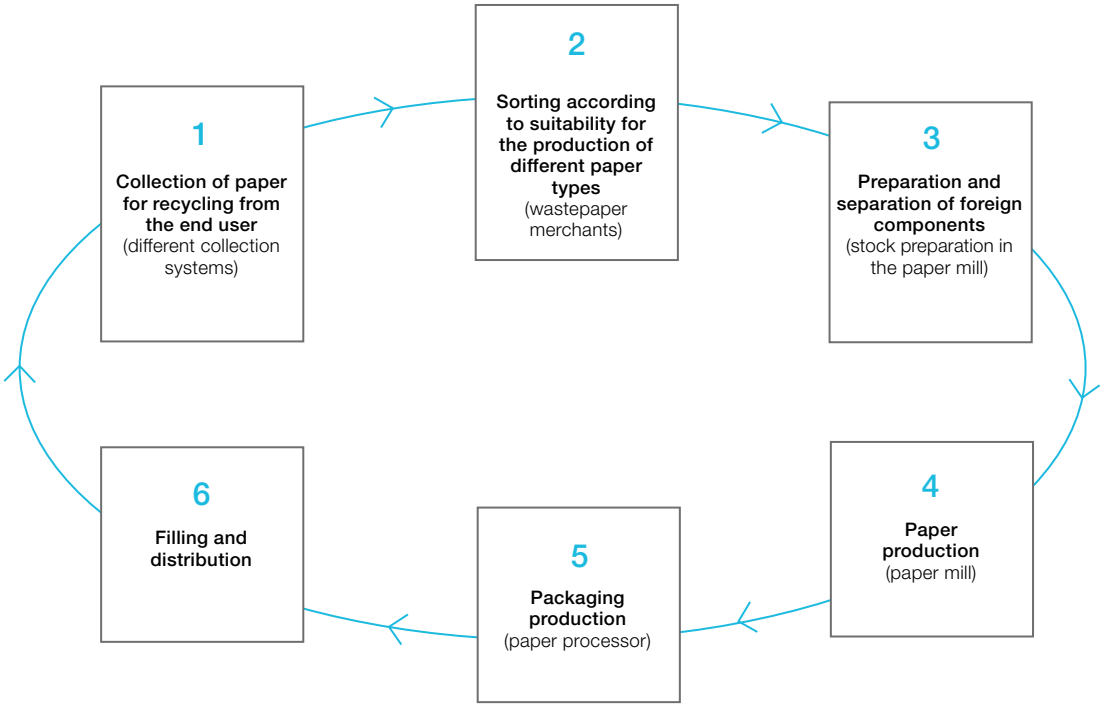
The paper value chain is extremely stable and offers a high recycling rate of around 60 % worldwide and as high as 71.4 % in Europe. We are engaged in developing optimized technologies for stock preparation to further increase this percentage and continue to close the loop. This involves developing additional process steps and adapting processes to safeguard the use of recycled paper in paper production.

A particular challenge for recyclability is the loss of large quantities of graphic paper used in printing newspapers and magazines, for example. We are working on new solutions to improve resource and material efficiency to offset the resulting lower strength potential of the wastepaper mix and contribute to maintaining the recycling loop. This includes hard nip sizing where less starch is applied, leading to savings in raw material usage and less drying energy. The completely new starch application process required to achieve this is currently being developed in cooperation with a pilot customer and is already showing promising results. Furthermore, the digitization module OnEfficiency.Strength allows a significant reduction in the quantity of starch required to achieve the target strength of the paper. Over 20 installations are now in use worldwide, achieving savings of around 36,000 metric tons of starch and 300,000 MWh of drying energy per annum.

Voith Paper is a member of an industry consortium consisting of more than 100 well-known companies operating throughout the entire fiber-based packaging value chain. The initiative aims to increase the recycling rate of fiber-based packaging from 82 % to over 90 % by 2030, and to reduce carbon emissions in the packaging lifecycle. Following initial laboratory tests on the pulping capacity of various barrier papers in the 2021/22 fiscal year, pilot tests have now been carried out at the Voith Fiber Technology Center in close cooperation with the 4evergreen industry consortium for papers that are particularly difficult to pulp. As a result, new pulping processes will be evaluated in the overall process of wastepaper preparation, including sorting and fiber treatment.

Further information:
4evergreen

Packaging lifecycle



Voith Paper solutions are developed to achieve both low fiber loss and a reduction in reprocessing chemicals. The move away from plastic packaging offers an opportunity to replace plastic with paper and cardboard packaging, products which are more attractive thanks to their very good recycling properties. This requires the further development of paper and cardboard boxes so they can assume the barrier function of plastics, repelling water, grease, and gaseous substances while remaining recyclable. The application of such barriers as a continuous thin film is a major challenge that we are working to achieve together with our customers. To this end, Voith has made major investments of several million euros in pilot facilities for paper calendaring as well as for the application and drying of barrier layers on paper, which replicate the industrial process 1:1. With the help of this test coating machine, we are now working with our customers to determine optimum process engineering concepts and set-up parameters for the different barrier formulations. We are also investigating the recyclability of the barrier-coated papers.

95 % water savings with new cleaning system

Alongside energy use, water consumption is a second decisive factor in paper production – from an environmental and an economic standpoint. In addition to the successful HydroSeal and FilmLube products, CleanLine Excell can save large amounts of water when cleaning the surfaces and structures of forming and press felts. This new cleaning system uses 95 % less water, making it much more effective than conventional cleaning systems. The need for chemical cleaning is also significantly reduced.

Toward a water-free paper mill

The Zero Effluent Mill Process is key in progressing toward a circular economy. Voith Paper is involved in this concept together with other packaging paper manufacturers. The system shows that a paper mill can be operated without any resulting wastewater and with a minimal freshwater consumption of just over 1.5 m^3 per ton of paper produced. With an annual production output of 750,000 tons of paper, this equates with annual freshwater savings of around 3.75 million m^3. The implementation of Voith's AquaLine Zero water management system as part of a new plant project with one of our customers confirms the achievability of the targets set and shows how freshwater and wastewater volumes can be significantly reduced through modern process design.

Product longevity through upgrading, retrofitting, and repairability

The machines and systems of the Voith Paper Group Division are designed for a particularly long service life. Our machines run for around 20 years and can always be brought back to state of the art through small and large rebuilds. This allows us to easily extend their service life by further decades. In the context of the circular economy, it is essential to ensure our plants can be repaired and upgraded to keep them running safely and efficiently for decades. Together with our customers, we therefore ensure that optimum operating conditions are in place during plant installation. Special service audits provide the opportunity to check, recondition, and repair individual machine components or whole production sections as needed. For example, buildup welding of rotors for stock preparation machines can be used to improve operating conditions, also in terms of energy and raw material consumption. Regular maintenance and appropriate documentation deliver an overview of a machine's condition and thus contribute to the optimum operation and improved service life of the plant. Through mechanical repairs and upgrades to the rolls, either in our workshops or at our customer's location, we significantly extend the service life of the rolls in paper machines. This service is increasingly in demand, which will allow this segment of our business to keep growing.

Resource-saving wear parts logistics

Innovative products such as the OnCare.pmPortal and ID tagging enable Voith as a service partner and a spares and wear parts supplier, as well as the customer itself, to optimize asset management (rolls, QualiFlex press sleeves, and screens). This circumvents plant downtime due to unsuitable components failing or components being serviced too late. Voith Paper's concept is an integrated one that can incorporate the assets of competitors, thus enabling the efficient use of resources in wear parts logistics. In our FRS Division, we are also developing alternative products with bio-based or recycled materials for the relevant product segments. For example, in September 2022 Voith launched AiroGuide Tune Green, the first DIN CERTCO-certified bio-based guide roll cover for more sustainable paper production.

Successful recycling

At the same time, we are working hard on increasing the recyclability of wear parts. One example of this is the production of our QualiFlex press sleeves: The manufacture of these press sleeves requires a surface treatment, which generates production waste that was previously incinerated. To promote the circular economy in our production processes, we contracted a recycling partner in the fall of 2022 to collect the manufacturing waste and deliver it back to the material supplier. There, 100 % of the material is recycled in a chemical process and returns to the material cycle. This process lets us recycle around 5 tons of material per month.

Fact base
Further information on technologies for improved social and environmental impacts at Voith Paper

Under the catchphrase “Design for Recycling”, press felt production at two press felt plants has already been adapted so that the felts and production waste can be recycled. As a result, production waste in the order of 100 – 200 tons per annum will be fed back into the recycling process in the future. The first monofilaments made from recycled polyamide material have already been developed and successfully employed in the first test felts.

Voith Turbo

The Voith Turbo (VT) Group Division specializes in intelligent drive solutions, systems, and pioneering service solutions. Customers from many sectors including energy, mining and mechanical engineering, marine technology, as well as rail and commercial vehicles rely on Voith’s cutting-edge technologies, digital solutions, and comprehensive expertise.

Megatrends such as decarbonization and digitalization influence our business, as do regulatory interventions and new requirements on the part of our customers. Against this background, Voith Turbo has developed specific scenarios on the topics of mobility, water, and environmental technologies as part of the Foresight Project initiated in 2018. Strategic search areas for innovations and technologies were derived from the findings of this project, including the areas of alternative drives, artificial intelligence, and the use of new and hybrid materials. Specific technology roadmaps for the electrification of powertrains and the further digitalization of product lines were also developed.

Product group	Share of revenue of Group Division in %
VT Mobility of which rail (43 %)	56
VT Industry of which wind generators (4.2 %)	32
VT Off-Highway	11
VT Others	<1

Our Future Vision VT 2030+ for a sustainable product portfolio

Developed in the 2021/22 fiscal year, Future Vision VT 2030+ is a vision for the future of the Voith Turbo Group Division, and the VT Mobility and VT Industry Divisions, and is based on developed future scenarios. It describes our vision and our ambitions for the future direction of the Group Division – to become a leading specialist for drive systems and technologies in the sustainable mobility and industrial markets of tomorrow – and underlines the urgency required to shape this transformation. Our Future Vision VT 2030+ specifies concrete challenges and defines goals: How do we want to transform our core business, tap into new growth areas, increase profitability and quality, and focus on the product portfolio? It also outlines how Voith Turbo intends to drive internal change with the help of an evolved corporate culture – for the next 10 years and beyond.

Positive contribution to sustainable energy generation and efficient energy use
Voith Turbo products and services already have a positive impact on sustainable generation and efficient use of energy. In the VT Mobility Division in particular these include innovative solutions for the rail vehicle industry (digitalization of couplers for freight transport), electrified drive systems for city buses, and the electric Voith Schneider Propeller (eVSP) for maritime applications. With the VT Industry Division's re-entry into wind power in 2020, Voith is pushing ahead with the continued decarbonization of power generation. In this way, Voith Turbo is meeting the growing demand for solutions for carbon-neutral power generation, further expanding its core business in the field of renewable energies. In addition, the VT Industry Division launched various future-oriented projects in the field of hydrogen infrastructure.

Overall, we have identified a total of ten growth areas and defined the products and solutions with which we want to achieve sustainable growth. We are committed to developing promising growth areas with a view to the megatrends of decarbonization, electrification, digitalization, and urbanization, and to focusing our investments on sustainable cutting-edge technologies.

Guideline for sustainable product development

Voith Turbo ensures adherence to all legal requirements (e.g. REACH) regarding material compliance and fulfills corresponding obligations to minimize negative impact on people and the environment. The product development process already incorporates this requirement from the early stages, with harmful materials being replaced by other materials as early as the engineering phase, wherever technically and economically feasible.

Megatrend decarbonization – focus on energy efficiency

Decarbonization and the road toward electromobility continue to be the key megatrends for Voith Turbo. The fields of action for reducing carbon emissions are divided into four areas:

1. Process improvements and technologies

Voith Turbo is driving forward the optimization of its product energy efficiency and carries out Life Cycle Assessments for selected products. To meet the growing global demand for climate protection and carbon reduction, our continuous development of products and technologies to reduce energy consumption is supplemented by developments in electric drives in all segments in which Voith Turbo operates: for example, commercial vehicles, shipping, and mining. Our aim is to offer our customers increasingly energy-efficient products through improving their efficiency. To this end, we drive a continual improvement process in which our customers are directly involved. Here we always focus on the impact of using a Voith component on the Total Cost of Ownership (TCO). Energy costs account for by far the greatest proportion of TCO, particularly in the case of industrial products, so reducing these is a top priority.

Many products already meet the highest requirements in terms of energy costs. With its high-efficiency gearbox technology, Voith Turbo's Industry Division offers the possibility of reducing the energy consumption and oil requirements of gearboxes with power generation systems by up to 20 – 25 % through the use of innovative slide bearings and technologies for reducing power losses. The VoreconNX variable speed drive for pumps and compressor applications has a 20 % higher energy efficiency in partial load operation.

Further information:
VoreconNX

Furthermore, VT Mobility is currently developing DIWA NXT, a new type of transmission for city buses that will bring about potential fuel savings of up to 7 % (mechanical optimization) and an additional 9 % through an optional mild-hybrid system (recuperation unit). Overall, this achieves a 16 % reduction in energy consumption compared to the previous transmission – the equivalent of 17 % lower carbon emissions. Voith's Turbo Compound System can significantly reduce fuel consumption and carbon emissions of heavy commercial vehicles. In addition, by developing a disconnectable compressor, an 80 % reduction in power loss can be achieved for our air compressors. Voith Turbo products also contribute to lower carbon emissions in rail transport. For example, rail engines such as automatic and turbo transmissions are optimized by reducing their weight and continuously improving efficiency levels.

Further information:
DIWA NXT

2. Digital solutions

Through digitalization and smart process controls, the products and solutions from the VT Mobility and VT Industry Divisions are contributing to more efficient energy use and a longer service life for products across all markets served by Voith Turbo. One example is BeltGenius, an innovative digital system developed by the VT Industry Division for simulating entire conveyor systems in the mining sector. Efficient monitoring, evaluation, and optimization of belt conveyors and conveyor systems enable reductions in plant downtime and achieve an energy saving of up to 10 %. Likewise, the VT Mobility OnCare and OnEfficiency solutions, cloud-based analysis methods for optimized fleet management, achieve additional carbon reductions through lower fuel consumption. Smart Accelerate

Further information:
BeltGenius

achieves average fuel savings of 5 % for city buses by intelligent, situation-dependent limitation of vehicle acceleration. In addition, city buses consume up to 12 % less fuel, depending on the application, because of the Stop-Start function in Voith's bus transmission. A comparable principle contributes to lower carbon emissions in rail transport: Thanks to the Voith Stop-Start engine, shunting locomotives consume 11,000 liters less diesel fuel on average per annum.

Further information:
Stop-Start system

3. Renewable energies and the mobility transformation
Voith Turbo is paving the way for electromobility. The Group Division is tackling this challenge by developing hybrid transmissions and a fully electric drive, among other things. The aim here is to bring uniquely efficient systems to market in a competitive environment. Extensive projects have already been implemented for this purpose. VEDS is an electric drive system for city and intercity buses as well as for medium-duty trucks. Production of the system has begun, and orders have been received from all over Europe. Tests have shown that the VEDS achieves significant efficiency advantages over the competition. With the development of the new VEDS HD+, we intend to make these efficiency benefits available to heavy trucks and special vehicles as well. With the delivery of the first automated freight train couplers to Swiss Federal Railways (SBB), Voith is contributing to strengthening rail freight transport, which can make a substantial contribution to sinking carbon emissions.

4. Groundbreaking innovations
For Voith, the topics of hydrogen production and utilization are of major importance. We are therefore strengthening our commitment in all relevant areas of the hydrogen value chain and covering important key areas, from production and transport through hydrogen pipelines, through storage in high-pressure hydrogen tanks, and utilization by means of hydrogen fuel cells and components for the hydrogen-electric powertrain. One example: Voith presented the first prototype of a hydrogen-powered city bus at IAA Transportation in September 2022. The vehicle was equipped with a hydrogen engine, the Voith DIWA NXT mild-hybrid system, and a Voith water tank system. This brings Voith another step closer to our goal of playing a key role in the global decarbonization of public transport.

Megatrend digitalization – efficient systems to tap optimization potentials

Voith Turbo continues to focus on the digitalization of its product portfolio to enable even greater resource efficiency. To secure this, Voith Turbo is working on various systems for status monitoring of components and systems. This is intended to avoid critical operating conditions and support product reliability and longevity.

One example of this is VT Industry's OnCare.Health solutions for cardan shafts and variable speed drives. With the aid of these we are equipping our equipment with intelligent monitoring sensors that are so attractively priced, they can be used in many applications. In a second project phase, data-based performance improvements are being developed using AI.

Circular economy principle – contribution to longevity and repairability

A long service life is a key quality feature of Voith Turbo products and also contributes toward lower resource consumption. All Voith Turbo products are designed for a very long service life: Many of our products are in use for 40 years or more and are designed in such a way that they can be repaired and reconditioned after this period to remain in operation for several more decades. Our industrial gear units, for example, comply with ISO 6336 and the American Petroleum Institute (API) 613 and 617 standards for durable design. Our service promise is based on supporting systems and components with spare parts over a very long period, thereby avoiding overly premature scrapping.

Remanufacturing is resource efficient as it extends the lifecycle of products, while our customers benefit from lower TCO thanks to a longer service life. In addition, we have established our own returns business for third-party products, as well as for the three largest product areas in VT Mobility (transmissions, retarders, and Scharfenberg couplers). In this way, products are returned to our production facilities for repairs, where they are reconditioned and upgraded where possible. In addition, most of our products are made of metals such as steel and aluminum and can therefore be efficiently recycled at the end of their lifecycle, even after decades of use.

Greatly increased recyclability, upgradability, and repairability

Thanks to the Directed Energy Deposition (DED) additive manufacturing process, worn or undersized components can be restored in a timely manner with minimal use of resources and without the need for replacement parts. Digitalization in service and production also supports the overhaul of returned bus gearboxes and leads to design improvements, an intelligent spare parts supply, and a significantly optimized gearbox service life. As part of modularization and value analysis/Design to Cost, we are working on further increasing the recyclability, upgradeability, and repairability of our products. This is made possible through the intelligent design of interfaces, for instance, so that individual modules can be swapped out quickly and easily without having to replace the entire product. In the future, the Design for Sustainability approach in value analysis / Design to Cost will be an important means of identifying measures to reduce the carbon footprint, while considering manufacturing costs within the product and component functions.

Fact base
Further information on social and environmental impact at Voith Turbo

4.2 Responsibility in the supply chain

Management approach

Voith works to build long-term, trust-based supplier relationships that focus on quality, service, and cost effectiveness. Control mechanisms for compliance with laws, and environmental and social standards in the supply chain ensure that Voith's values and requirements as well as legal stipulations are always met.

In the 2022/23 fiscal year, we purchased a wide range of goods and services worth just over € 2 billion from our external suppliers and service providers. Measured by overall invoicing volume, the purchase of complete plant systems was the largest item of expenditure, as was the case in previous years.

Fact base
Procurement markets

At the end of the reporting year, a dedicated Corporate Purchasing Sustainability team was set up in our Corporate Strategic Purchasing (CSP) department. This team is intended to ensure central and methodical responsibility for sustainable procurement and to coordinate sustainability activities across the Group Divisions. In addition to establishing sustainability aspects in our purchasing processes, the team is also responsible for ensuring that suppliers comply with specific aspects of environmental and social compliance. Current topics are coordinated with representatives of the Group Divisions in cross-divisional purchasing committees and are implemented with appropriate measures.

Our fundamental approach to conserving resources and fulfilling our environmental and social responsibility is anchored in our Purchasing Strategy and our GPC. Together with our Code of Conduct, these set out the framework for purchasing activities at Voith. Statutory compliance is a matter of course for Voith: We place a particular focus on occupational health, safety, and environmental protection, as well as on prohibiting any form of child and forced labor. At Voith, requirements for the declaration of hazardous substances and the handling of conflict minerals throughout the Group are also defined in our GPC. By confirming the requirements set out in our GPC, suppliers commit to implementing appropriate measures in their organization, and, with reference to their own supply chain, to work to ensure that conflict minerals, as defined in Sections 1502 and 1504 of the US Dodd-Frank Act, are not contained in the products they supply.

Fact base
Conflict minerals

Clear rules for working with suppliers

Our Code of Conduct is the core guideline for all our purchasing activities. Taken together with our GPC, it defines our understanding of partnership-based collaboration and sets out rules to deal with compliance issues, as well as environmental and social standards. These two policies serve as the basis for contractual agreements with our suppliers, whom we encourage to pass these same requirements on to their own subcontractors. An additional check of compliance with the social and environmental standards contained in our Code of Conduct takes place within the context of quality management audits. Through country-specific versions of the GPC, we ensure that our Purchasing organization takes national particularities into account, for example with respect to payment terms, environmental requirements, and customs regulations. Voith has drawn up a total of 39 country-specific GPCs, either in English or in the respective national language, and in most cases in both languages.

Against the background of the German Supply Chain Act (SCA) on corporate due diligence obligations in supply chains (Lieferkettensorgfaltspflichtengesetz, LkSG), the revision of existing framework agreements and the GPC, which we began implementing in all regions in the previous reporting period, was continued in this reporting period. During this process, the existing documents were supplemented to include human rights and environmental requirements in accordance with the provisions of the SCA. Among other things, Voith follows the definitions of the International Labour Organization (ILO) conventions, the Minamata Convention, and the Stockholm and Basel Conventions. In addition, the contractual agreements provide for preventive measures to support compliance with human rights-related and environmental requirements at our direct suppliers (e.g. through training) and to verify such compliance (e.g. through audits). The process of adjusting contractual agreements for Voith suppliers worldwide began in October 2022 and is scheduled for completion in the 2023/24 fiscal year, although continual adjustments will be made thereafter as needed.

Chapter
Values and compliance

Comprehensive supplier information via Purchasing IT system

We use the PurONE IT system to work with our suppliers. It supports our purchasing processes, for instance by making comprehensive supplier information readily available, particularly regarding sustainability and compliance aspects.

PurONE's end-to-end approach enables integrated supplier management for both communication and interaction with our suppliers. The PurONE system maps all relevant processes, from supplier registration to order confirmation, and is closely integrated into our ERP systems.

Once suppliers register with the system, a process which includes a series of mandatory declarations such as completing a Compliance and Sustainability questionnaire, they can update their data themselves, edit their questionnaires, upload certificates, and respond to calls to tender and price negotiations following explicit approval. Furthermore, the system includes a document database for contracts and contract-related documents, such as non-disclosure agreements (NDAs), as well as a certificate database that includes quality certificates. In the context of the SCA, PurONE is also intended to be used increasingly for compliance and sustainability topics, as well as to provide documentation for reporting to the German Federal Office of Economics and Export Control (Bundesamt für Wirtschaft und Ausfuhrkontrolle, BAFA). For this purpose, further functionalities have been implemented such as a SCA risk flag for critical suppliers, a status display for the Compliance and Sustainability questionnaire, and an overview of all sustainability checks at suppliers with corresponding follow-up measures.

We can achieve even greater transparency in the purchasing process through electronic sourcing via PurONE. This enables suppliers to process requests online via the standardized platform. Price negotiations on individual tenders can also be conducted online, thereby eliminating the need to travel to negotiate in person and reducing the overall environmental impact. A transparent and fair contractual award process for all parties, internal award specifications, and "Golden Rules" for electronic auctions also ensure that compliance requirements are always met. Moreover, sustainability aspects are to become an increasingly important part of the contract award process in future: For instance, SCA criticality, carbon footprint, and any relevant ratings will serve as additional decision-making criteria when awarding contracts.

Golden Rules for eAuctions

1

The basis for an eAuction are the results of a request for quotation/tender (RfQ or eRfQ).

2

An eAuction adheres exactly to the rules defined in advance, which are communicated to all participants (suppliers) and accepted and signed by both sides (Voith and suppliers).

3

It is not permitted for internal (Voith) employees to participate in an auction as bidders.

4

All suppliers are to be treated equally, e.g. every participant receives the same information/documents. Information regarding number/participating suppliers/prices or other price indications are to be handled internally and confidentially.

5

By applying surcharges/discounts (bonus/malus), the outcome of an eAuction can be significantly influenced and must therefore be comprehensible and fair. This method is also important to ensure direct comparability and thus direct awarding that takes into account all significant factors.

6

Predefined criteria (e.g. target price, bonus/malus) and award rules must be adhered to both during and after the eAuction.

Comprehensive training program

Our Purchasing School has been implemented on Voith's DRIVE learning platform and is available globally to all colleagues in Purchasing. The Purchasing School includes all established training courses for Purchasing (e.g. training courses on purchasing methods, processes, systems, and negotiation expertise), as well as other Voith training courses that are relevant to Purchasing, such as compliance, information security, data protection, and industrial security. The Purchasing School currently offers 43 training courses with approx. 130 training hours in various formats, including online and classroom-based training, e-learning, and training videos. Voith will continue updating and expanding the scope of the Purchasing School on a regular basis.

In the reporting year, almost all Purchasing employees attended training or e-learning courses. Overall, Purchasing employees completed 5,942 training hours in the reporting year (previous year: 7,197). The decrease in completed training hours is due to the completed introduction of the PurONE purchasing system, as training for the new purchasing system was carried out in the 2021/22 fiscal year.

Compliance training was also conducted on an ongoing basis. These mandatory events for Purchasing employees focus on the rules laid down in our CoC, relevant anticorruption laws, competition law, and occupational safety regulations. Additional training was implemented to convey the key human rights and environmental aspects enshrined in the SCA. A total of 341 employees from Purchasing and Quality Assurance were trained in the requirements and proper implementation of the SCA. An additional training concept for our suppliers is currently in development. The publicly available supplier portal on our Voith website contains information on the topics of compliance and sustainability, Voith's Code of Conduct, and our GPC, as well as documents on packaging and logistics guidelines, and empty container requirements.

Fact base
Training scope

Conducting regular risk analyses

To comply with our human rights and environmental due diligence obligations, we carried out a comprehensive risk analysis of our direct suppliers in the 2022/23 reporting year. Due to our broad supplier base, we defined various filters to appropriately identify and prioritize material human rights and environmental risks among our direct suppliers. In this instance, the data basis was again provided by our ERP systems.

The first step of the risk analysis was to apply a filter for country-specific risks, resulting in a classification of individual countries into four risk categories. Publicly available indexes were used here to ensure as objective an assessment as possible. The relevant indexes were selected based on the human rights and environmental requirements of the SCA. To make the scores of the various indexes comparable, they were scaled uniformly and standardized; the comparatively worst index value then determined the classification of the respective country. This methodology also considers the Environmental Performance Index, which assesses climate change, environmental health, and ecosystem vitality factors, to an appropriate extent.

The second step of the risk analysis involved filtering for product and industry-specific risks. First, the MVO Nederland CSR Risk Check was used, which is a publicly available database that is based on a range of sources related to social and environmental sustainability. The risks identified in this step were then processed and broken down into 22 different sectors. Subsequently, this data basis was translated to Voith's material group keys and the material groups were assigned to four risk categories.

MVO Nederland
CSR Risk Check

The individual supplier risk was also assessed to consider the company's ability to influence the actions of suppliers as specified in the SCA. A turnover threshold of € 25,000 was employed for the evaluation, whereby the respective supplier was not taken into consideration if this turnover threshold was not exceeded in any of the three preceding fiscal years.

According to the filter logic, the intersection of suppliers for which an increased or very high risk was identified in the two previous process steps represents the potentially critical suppliers. If these have exceeded the turnover threshold, they were examined more closely in the analysis. If suppliers are classified as critical in the risk analysis, they receive a request to complete the Compliance and Sustainability questionnaire and submit it for review via PurONE. If concerns persist after this step or if there are indications of violations of our standards, an escalation process is initiated that results in specific countermeasures and may ultimately lead to termination of the business relationship.

Our social and environmental compliance approach for suppliers

Integrity check/ critical country check	• The integrity check is an essential part of the creditor registration process (master data management). • It ensures that a supplier exists, and that no past incidents of fraud, corruption, or child labor have transpired. In addition, creditworthiness checks/ratings are obtained regarding planned order volumes. • All suppliers are checked against critical country lists.
Supplier self-assessment / compliance questionnaire	• The compliance questionnaire is part of Voith's PurONE purchasing system and is a mandatory part of the registration and qualification process for all new and SCA-critical suppliers. • It contains obligatory compliance questions to be answered by every relevant supplier. Additionally, suppliers must appoint a contact for compliance issues in their company. • The questionnaire covers all relevant categories of the SCA, in particular social and environmental sustainability, compliance, and self-assessment questions on supplier diversity, where applicable.
General supplier self-assessment	• Supplier self-assessment is a PurONE functionality to obtain further information from suppliers about their capabilities, as well as their willingness to take measures to optimize their cybersecurity, for example. • It represents the requirement for our suppliers to make standardized general and technology-specific statements, including their level of certification regarding quality, environment, energy, occupational safety, ISO, etc.
CoC integrated into GPC	• The GPC also require compliance with statutory provisions and laws, and prohibit bribery, corruption, and child and forced labor.
Sustainability reviews and quality audits in line with the SCA	• The supplier audit questionnaires of the respective Group Division quality departments have been revised and now contain questions based on the PurONE compliance questionnaire (human rights and sustainability). • The same questions should be used for supplier visits, using the sustainability audit questionnaire to provide additional guidance. • Subsequently, this is to be documented in PurONE.
Supplier evaluation/audits	• The supplier audit questionnaires of the respective Group Division quality departments contain sections with compliance and sustainability questions that must be answered during a supplier audit or location inspection. • Scope and frequency of audits are determined by the Group Divisions.

Risk reduction through self-assessments

Fact base
Supplier risk assessment

We minimize risk exposure in the purchasing process by requesting regular Compliance and Sustainability self-assessments from our suppliers. A standardized Group-wide questionnaire ensures that the relevant data is collated and processed in a logical and coordinated manner. The corresponding Compliance and Sustainability questionnaire is a mandatory part of the registration process in the PurONE purchasing system and meets SCA requirements. It covers human rights, environmental protection, and working conditions. In North America, we ask our suppliers additional questions regarding certification for minority-owned companies.

Beyond this process, there is the option for supplier self-assessments on specific topics, for example on cybersecurity.

The Compliance and Sustainability questionnaire also forms the basis for Supply Chain Act Reviews: questionnaires in which we request information from our suppliers on their compliance with human rights and environmental standards. The questionnaire also serves as a practical reference during on-site inspections: For example, human rights and environmental requirements are checked both during supplier visits by Purchasing and during audits by the Quality Assurance departments on location. The same applies to on-site visits to potential new suppliers.

At the end of the reporting period, the system contained valid Compliance and Sustainability checks for over 5,056 suppliers (previous year: 2,671). The suppliers assessed thus accounted for 56 % of our supplier expenditure in the 2022/23 fiscal year (previous year: 52 %). Once migration to the new PurONE purchasing system was completed in the 2021/22 fiscal year, the Compliance and Sustainability questionnaire became a mandatory part of the registration process. For this reason, the figure is expected to rise again in future.

Fact base
Supplier self-assessment

Standardized evaluation of active suppliers

In addition to self-assessments, employees from our specialist departments evaluate our active suppliers in cooperation with their colleagues from Purchasing. A Group-wide standardized procedure with transparent criteria ensures comparability of results and thus increases the transparency of supplier performance. Sustainability is also included as a criterion in supplier evaluation. Here the weighting differs depending on the overall scope of the set criteria: In addition to working conditions and occupational safety standards, health and environmental protection are also assessed.

Fact base
Supplier evaluations

The uniform supplier classification methodology established in the 2018/19 fiscal year is currently being implemented in the new PurONE IT system. Once implementation is completed, our focus suppliers will continue to be classified at least once a year by Purchasing employees, according to their importance in the supply chain.

Consistent response to violations

Potential violations of sustainability standards in our supply chains can be reported at any time through our publicly accessible Whistleblowing Scheme. If there are indications that suppliers are violating applicable laws or our CoC, or are losing their creditworthiness, Purchasing will conduct in-depth investigations. These take place in coordination with the Legal Department at Voith to assess each potential violation from both a legal and a compliance perspective. We have established a specific process for this purpose, which defines the appropriate threshold levels and sets out specific reporting structures at local and central levels.

Chapter
Values and compliance

Depending on the severity of the violation, different reporting pathways are specified: While minor incidents are reported to the local Compliance Officers, in the case of major incidents the Compliance Officers of the respective Group Division are consulted. In cases of corruption or particularly serious incidents, the central Compliance Committee is brought into the process.

In the event of incidents that fall under the SCA, a defined escalation process is triggered. If there are indicators of a violation, it results in an individual action plan with specific responsibilities. Possible remedial measures range from requesting a position statement, through establishing regular communication about implementing substantive measures, to reviewing contractual assurances, and a possible relocation of orders. As a final resort, we can terminate the business relationship and blacklist the supplier in question centrally.

Fact base
Supplier compliance

The actual blacklisting is then carried out by the central Master Data Governance (MDG) department at Voith, which has organizational representation and holds technical responsibility in all Voith regions since 2019. To this end, a central MDG system was introduced to provide technical support for the processes. This project was launched in the 2018/19 fiscal year and has been progressively implemented ever since as part of activities to improve Voith's IT infrastructure. The MDG system now interfaces with all Voith's SAP systems.

Checks prior to establishing a business relationship

Led by the Master Data Governance department and supported by Purchasing, various upstream Compliance and Sustainability checks are carried out as soon as potential new creditor (supplier) profiles are created, even before a business relationship is established. The first step is to determine whether the supplier in question comes from a risk country (critical country check) or is even blocked (blocked list check). The supplier data consistency check, including banking records, is carried out according to the dual control principle. In addition, Purchasing conducts an integrity check (see page 19 and 91) when a new creditor with a purchasing volume of more than € 25,000 is created. At the same time, checks are carried out with the aid of publicly available data to determine whether compliance incidents have been flagged up in the past. Finally, the aforementioned Supply Chain Act Reviews are conducted during on-site visits to potential new suppliers.

GRI index

Universal standards

Disclosures		Comment	Reference
GRI 2: General Disclosures 2021			
2-1	Organizational details		8–9 AR 2023: 18–25 https://voith.com/corp-en/about-us/company.html
2-2	Entities included in the organization's sustainability reporting		120–123 AR 2023: 94–95
2-3	Reporting period, reporting frequency, and contact point		126–127; 131
2-4	Restatements of information		126–127
2-5	External assurance	This report has not been externally audited.	126
2-6	Activities, value chain, and other business relationships		8–10 AR 2023: 94–100 Fact base: International focus (102)
2-7	Employees		27–30 Fact base: Workforce structure (105) Fact base: Employees by employment type (106)
2-8	Workers who are not employees		Fact base: Employees by employment type (106)
2-9	Governance structure and composition		8–9 AR 2023: 9–15 https://voith.com/corp-en/about-us/company/corporate-board-of-management.html
2-10	Nomination and selection of the highest governance body		8–10
2-11	Chair of the highest governance body		8–10 AR 2023: 10–14 https://voith.com/corp-en/company/company-overview/supervisory-board.html
2-12	Role of the highest governance body in overseeing the management of impact		AR 2023: 10–14
2-13	Delegation of responsibility for managing impacts		AR 2023, 10–14
2-14	Role of the highest governance body in sustainability reporting		8; 11–15
2-15	Conflicts of interest		10 AR 2023: 11–12
2-16	Communication of critical concerns		15–20 Fact base: Escalation channels and points of contact for complaints (103) https://voith.integrityline.app/?lang=en
2-17	Collective knowledge of the highest governance body		AR 2023; 11–13
2-18	Evaluation of the performance of the highest governance body		8–10 AR 2023: 10–15; 63–76

Disclosures		Comment	Reference
2-22	Statement on sustainable development strategy		4 – 7
2-23	Policy commitments		6; 11; 16 – 17; 20 https://voith.com/corp-en/about-us/compliance.html
2-24	Embedding policy commitments		15 – 20; 30; 87 Fact base: Responsibility for society (103 – 105)
2-25	Processes to remediate negative impacts		11 – 15; 15 – 21 AR 2023: 63 – 76 Fact base: Occupational health and safety (112) Fact base: Products and supply chains (120 – 123) https://voith.com/corp-en/about-us/sustainability.html
2-26	Mechanisms for seeking advice and raising concerns		15 – 20 Fact base: Values and compliance (103)
2-27	Compliance with laws and regulations		15 – 21 AR 2023: 63 – 76
2-28	Membership associations		23 Fact base: Membership of associations (103)
2-29	Approach to stakeholder engagement		11 – 12; 13 – 15; 58 – 59
2-30	Collective bargaining agreements		28 Fact base: Details on upholding the rights of employees (107)
GRI 3: Material Topics 2021			
3-1	Process to determine material topics		13 – 14; 126
3-2	List of material topics		14
3-3	Management of material topics		11 – 15 Integrity: 15 – 25 Employees: 26 – 43 Decarbonization: 47 – 51; 58; 70 – 81 Supply chain: 86 – 93

Topic-specific standards

Disclosures		Comment	Reference
GRI 200 Economic Disclosures			
GRI 201: Economic performance 2016			
201-1	Direct economic value generated and distributed		AR 2023: 86 – 87 Fact base: Economic indicators (102) Fact base: Taxation (103) Donations and sponsorships (104 – 105) Fact base: Expenditure for employees (107)
201-2	Financial implications and other risks and opportunities due to climate change		12 – 14
201-3	Defined benefit plan obligations and other retirement plans		AR 2023: 119; 140 – 149
201-4	Financial assistance received from government	There was no significant financial assistance in the reporting period.	
GRI 205: Anti-corruption 2016			
205-2	Communication and training about anti-corruption policies and procedures		16 – 19 Fact base: Compliance training (103)
GRI 206: Anti-competitive behavior 2016			
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices		AR 2023: 74
GRI 207: Tax 2019			
207-1	Approach to tax		21 Fact base: Taxation (103)
207-4	Country-by-country reporting		Fact base: Taxation (103)
GRI 300 Environmental Disclosures			
GRI 301: Materials 2016			
301-1	Materials used by weight or volume		51 – 52 Fact base: Materials used (116)
301-2	Recycled input materials used		51 – 52 Fact base: Materials used (116)
GRI 302: Energy 2016			
302-1	Energy consumption within the organization		47 – 51 Fact base: Methodology for recording energy consumption and GHG emissions (113) Fact base: Total energy consumption (114) Fact base: Electricity mix (116)
302-4	Reduction of energy consumption		47 – 51 Fact base: Energy-saving measures and further potentials (115)
302-5	Reduction in energy requirements of products and services		70 – 71; 74 – 78; 84 – 85 Fact base: Further information on social and environmental impacts at Voith Hydro (121) Fact base: Further information on technologies for improved social and environmental impacts at Voith Paper (122)

Disclosures		Comment	Reference
GRI 303: Water and Effluents 2018			
303-1	Interactions with water as a shared resource		56–57
303-2	Management of water discharge related impacts		57
303-3	Water withdrawal		56–57 Fact base: Water withdrawal (118) Fact base: Freshwater saving measures and further potentials (118)
303-4	Water discharge		57 Fact base: Wastewater by discharge method and quality (119)
GRI 305: Emissions 2016			
305-1	Direct GHG emissions (Scope 1)		48–50 Fact base: Methodology for recording energy consumption and GHG emissions (113) Fact base: Total GHG emissions (115) Fact base: GHG emissions Scope 1 (115)
305-2	Energy indirect GHG emissions (Scope 2)		48–50 Fact base: Total GHG emissions (115)
305-3	Other indirect GHG emissions (Scope 3)	Scope 3 emissions were not recorded in the reporting year.	
305-4	GHG emissions intensity		Fact base: GHG emissions: specific Scope 1 and 2 (116)
305-5	Reduction of GHG emissions		47–51; 67–70; 75–78; 83–85 Fact base: Measures for reducing GHG emissions and further potentials (116)
305-6	Emissions of ozone-depleting substances (ODS)		Fact base: Air pollutants (116)
305-7	Nitrogen oxides (NO_x), sulphur oxides (SO_x), and other significant air emissions		Fact base: Air pollutants (116)
GRI 306: Waste 2020			
306-1	Waste generation and significant waste-related impacts		52–55
306-2	Management of significant waste-related impacts		52–55; 73–74; 79–82; 86 Fact base: Waste-saving measures and further potentials (117)
306-3	Waste generated		52–55 Fact base: Waste volumes (117) Fact base: Hazardous waste (117)
306-4	Waste diverted from disposal		Fact base: Waste volumes (117)
306-5	Waste directed to disposal		Fact base: Waste volumes (117)
GRI 308: Supplier Environmental Assessment 2016			
308-1	New suppliers that were screened using environmental criteria		86–89; 90–92 Fact base: Supplier self-assessment (124) Fact base: Supplier evaluation (125)

Disclosures		Comment	Reference
GRI 400 Social Disclosures			
GRI 401: Employment 2016			
401-1	New employee hires and employee turnover		34 Fact base: Employee turnover (109) Fact base: New hirings (110)
401-3	Parental leave		Fact base: Parental leave (109)
GRI 402: Labor/Management Relations 2016			
402-1	Minimum notice periods regarding operational changes		28
GRI 403: Occupational Health and Safety 2018			
403-1	Occupational health and safety management system		38–39 Fact base: Certifications (112)
403-2	Hazard identification, risk assessment, and incident investigation		40–43 Fact base: Approach to preventing and handling negative health and safety impacts (112)
403-3	Occupational health services		39–43
403-4	Worker participation, consultation, and communication on occupational health and safety		39–43 Fact base: Employee representation on committees (112)
403-5	Worker training in occupational health and safety		39–43
403-6	Promotion of worker health		43
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships		38–43
403-8	Workers covered by an occupational health and safety management system		38 Fact base: Certifications (112)
403-9	Work-related injuries		40–43 Fact base: Occupational accidents (113)
GRI 404: Training and Education 2016			
404-1	Average hours of training per year per employee		35–38 Fact base: Training and further education hours by hierarchical employee category (111)
404-2	Programs for upgrading employee skills and transition assistance programs		34–38 Fact base: Details on safeguarding the rights of employees, measures for socially responsible restructuring and job security (107)
404-3	Percentage of employees receiving regular performance and career development reviews		Fact base: Training and further education hours by hierarchical employee category (111)

Disclosures		Comment	Reference
GRI 405: Diversity and Equal Opportunity 2016			
405-1	Diversity of governance bodies and employees		29–34 Fact base: Diversity in management and in the workforce (108) https://voith.com/corp-en/about-us/diversity-and-inclusion.html
GRI 407: Freedom of Association and Collective Bargaining 2016			
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk		16–20; 87–92
GRI 408: Child Labor 2016			
408-1	Operations and suppliers at significant risk for incidents of child labor		16–20; 87–92
GRI 409: Forced or Compulsory Labor 2016			
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor		16–20; 87–92
GRI 414: Supplier Social Assessment 2016			
414-1	New suppliers that were screened using social criteria		87–92 Fact base: Supplier self-assessment (124) Fact base: Supplier evaluation (125)
GRI 415: Public Policy 2016			
415-1	Political contributions	Donations to political parties and comparable party-political organizations as well as sponsorships of activities of such parties and organizations are prohibited by Voith's Group policy on Donations and Sponsorship.	22 Fact base: Donations and sponsorships to political parties and party-political organizations (105)
GRI 416: Customer Health and Safety 2016			
416-1	Assessment of the health and safety impacts of product and service categories		58-65
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	Voith did not become aware of any significant incidents during the reporting period.	
GRI 418: Customer Privacy 2016			
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	Voith did not become aware of any significant incidents during the reporting period.	

NFS index

Contents index for the non-financial report

NFS components	Topics	References
Business model	The Voith Group	8 – 10
	Sustainability strategy	11 – 15
	Risks	12 – 13
		AR 2023: 62 ff.
Environmental concerns	Energy efficiency and climate protection	47 – 51
		Fact base: Methodology for recording energy consumption and GHG emissions (113)
		Fact base: Total energy consumption (114)
		Fact base: Electricity mix (116)
	Environmental impact of products	65 – 74; 74 – 82; 82 – 86
		Fact base: Further information on social and environmental impacts at Voith Hydro (121)
		Fact base: Further information on Technologies for improved social and environmental impacts at Voith Paper (122)
		Fact base: Further information on social and environmental impacts at Voith Turbo (123)
Employee interests	Recruiting and promoting talent	34 – 38
		Fact base: Training and further education hours by hierarchical employee category (111)
	Occupational health and safety	38 – 43
		Fact base: Certifications (112)
		Fact base: Approach to preventing and handling negative health and safety impacts (112)
		Fact base: Occupational accidents (113)
Respecting human rights	Employee rights	16 – 20; 27 – 29
		Fact base: Details on upholding the rights of employees (107)
	Supplier management	20 – 21; 90 – 93
		Fact base: Supplier self-assessment (124)
		Fact base: Supplier evaluations (125)
Combating corruption and bribery	Compliance	15 – 20
		Fact base: Compliance training (103)
	Supplier management	17 – 20; 90 – 93
		Fact base: Supplier self-assessment (124)
		Fact base: Supplier evaluations (125)

Fact base

Strategy and integrity

Our profile

Economic indicators

Economic indicators in million €	FY 2022/23	FY 2021/22	FY 2020/21
Revenues	5,506	4,881	4,260
Operating result before non-recurring items	245	200	165
Earnings before taxes	157	116	80

Business areas in our profile in million €	FY 2022/23	FY 2021/22	FY 2020/21
Revenues			
Voith Hydro	1,189	1,048	945
Voith Paper	2,239	2,196	1,776
Voith Turbo	1,994	1,557	1,457
EBIT			
Voith Hydro	6	2	8
Voith Paper	145	131	114
Voith Turbo	80	48	41

International focus

Locations by regional distribution

More information

Sales markets in million €	FY 2022/23	FY 2021/22	FY 2020/21
Germany	778	679	583
Europe excluding Germany	1,712	1,358	1,349
Americas	1,316	1,167	965
Asia	1,512	1,509	1,227
Other	188	168	136

Sales markets in %	FY 2022/23	FY 2021/22	FY 2020/21
Germany	14	14	14
Europe excluding Germany	31	28	31
Americas	24	24	23
Asia	28	31	29
Other	3	3	3

Major sales countries in million €	FY 2022/23	FY 2021/22	FY 2020/21
Germany	778	679	583
China	909	931	758

Strategy and organisation

Employee sustainability training

We launched a multilingual e-learning course on sustainability in the 2019/20 fiscal year. The course is open to all employees of the Group and participation is mandatory for new job-starters at Voith Hydro, thereby underscoring how important sustainability is to us. In the reporting year, 1,121 employees worldwide (previous year: 638) completed the sustainability training program.

Values and compliance

Compliance training[1]

Training courses for prioritized groups Number	FY 2022/23	FY 2021/22	FY 2020/21
Managers from the upper six levels, Sales, Purchasing	18	18	20
Compliance Officers	3	2	1
Employees trained in centralized training[2] Number	**FY 2022/23**	**FY 2021/22**	**FY 2020/21**
Managers from the upper six levels, Sales, Purchasing	155	372	364
Compliance Officers	35	11	11
Employees trained in centralized training in %	**FY 2022/23**	**FY 2021/22**	**FY 2020/21**
Managers from the upper six levels, Sales, Purchasing	78	83	84
Compliance Officers	90	92	93
Employees trained in decentralized training or instruction Number	**FY 2022/23**	**FY 2021/22**	**FY 2020/21**
Training by Compliance Officers (> 1.5 hours)	1,904	640	825
Instruction by Compliance Officers or Supervisors (> 0.5 hours)	1,860	1,958	1,326

[1] These figures do not include acquisitions.

[2] Refresher training courses for Compliance Officers were conducted for the first time in FY 2022/23. These are not yet included in the data.

Escalation channels and points of contact for complaints

- Whistleblower Scheme/Compliance Helpdesk
- Direct superior/line manager
- Responsible HR employee
- Compliance Officer
- Group Division Compliance Officer
- Compliance Committee
- Corporate Board of Management
- Supervisory Board

Taxation

Taxes paid by region in thousand €	FY 2022/23	FY 2021/22	FY 2020/21
Germany	36,954	19,322	11,449
Europe excluding Germany	9,543	12,366	10,808
Americas	24,665	9,333	5,710
Asia	35,257	25,672	27,946
Other	2,407	1,664	1,503
Total	108,826	68,357	57,416

Responsibility for society

Membership of associations

Voith and its Group companies represent their interests through 587 (previous year: 552) association memberships and spend around € 2.6 million annually in membership fees (previous year: € 2.6 million).

Voith activity in associations, by level of membership contributions:

- Long Duration Energy Storage Council
- German Engineering Federation (Verband Deutscher Maschinen- und Anlagenbauer e.V., VDMA)
- Modellfabrik Papier gGmbH
- Baden-Württemberg Employers' Association of the Metal and Electrical Industry (Südwestmetall Verband der Metall- und Elektroindustrie Baden-Württemberg e.V., SWM)
- Research Association for Power Transmission Technology (Forschungsvereinigung Antriebstechnik e.V., FVA)
- German Standards Institute (Deutsches Institut für Normung e.V., DIN)
- German Railway Industry Association (Verband der Bahnindustrie in Deutschland e.V., VDB)
- Society for the Advancement of German Industry (Förderkreis der Deutschen Industrie e.V.)
- NWB e.V. Project Office DIN-FSF
- CONFINDUSTRIA TOSCANA NORD

Donations and sponsorships

Donations and sponsorships in million €	FY 2022/23	FY 2021/22	FY 2020/21
Voith Group	3.13	2.79	1.98
of which donations	1.53	1.51	0.77
of which cash donations	1.41	1.30	0.68
of which in-kind donations	0.12	0.22	0.09
of which sponsorships	1.60	1.28	1.21
Funding by project Number of projects	**FY 2022/23**	**FY 2021/22**	**FY 2020/21**
Education (school, training, and science)	69	65	62
Social affairs	51	50	40
Sport	29	28	24
Culture	22	25	19
Funding by project in %	**FY 2022/23**	**FY 2021/22**	**FY 2020/21**
Education (school, training, and science)	25	39	21
Social affairs	30	30	21
Sport	40	17	48
Culture	5	14	10
Funding by region in %	**FY 2022/23**	**FY 2021/22**	**FY 2020/21**
APAC	7.0	7.0	8.0
EMEA	90.0	70.0	88.0
Americas	3.0	23.0	4.0
Other	0.0	0.0	0.0

Donations and sponsorships from the Hanns Voith Foundation[1)]

Hanns Voith Foundation funding by project in €	2022	2021	2020
Science and research	11,650	40,500	67,000
Artistic, welfare, environmental and landscape conservation schemes	241,414	162,334	231,508
Measures aimed at international understanding and development aid	11,700	24,600	8,400
Training and education, measures based on the teachings of Rudolf Steiner	88,090	70,450	150,350
Scholarships	233,800	248,100	218,000
Total	586,654	545,984	675,258
Hanns Voith Foundation funding by project in %	**2022**	**2021**	**2020**
Science and research	2	7.4	9.9
Artistic, welfare, environmental, and landscape conservation schemes	41	29.7	34.3
Measures aimed at international understanding and development aid	2	4.5	1.2
Training and education, measures based on the teachings of Rudolf Steiner	15	12.9	22.3
Scholarships	40	45.4	32.3

[1)] Funding from the Hanns Voith Foundation is calculated and reported by calendar year rather than by reporting year.

Donations and sponsorships to political parties and party-political organizations

Political contributions in thousand €	FY 2022/23	FY 2021/22	FY 2020/21
Germany	0	0	5
Rest of Europe	0	0	0
Americas	0	0	0
Asia	0	0	0
Other	0	0	0
Total	0	0	5

Donations to political parties and party-political organizations, as well as sponsorships of activities of such parties and organizations are prohibited by the Group policy on Donations and Sponsorships.

Employment

Voith as an employer

Workforce structure

Consolidation framework for employment figures[1] Number	FY 2022/23	FY 2021/22[2]	FY 2020/21
Employees Group-wide as simplified FTE (excluding apprentices)	22,479	21,491	19,946
Employees Group-wide as headcount	23,108	22,034	20,378
of which employees involved in data analysis	23,108	20,491	20,378
Employees by age group, gender, and origin[3] Number as headcount	FY 2022/232	FY 2021/22	FY 2020/21
Voith Group	23,108	20,491	20,378
Number by gender	FY 2022/23	FY 2021/22	FY 2020/21
of which women	4,483	3,781	3,743
of which men	18,625	16,710	16,635
Number by age group	FY 2022/23	FY 2021/22	FY 2020/21
of which < 30 years	2,803	2,459	2,406
of which 30 – 50 years	12,967	11,338	11,300
of which > 50 years	7,338	6,694	6,672
Number by origin	FY 2022/23	FY 2021/22	FY 2020/21
of which German	7,609	7,251	7,229
of which non-German	15,499	13,240	13,149
Number by region	FY 2022/23	FY 2021/22	FY 2020/21
of which Germany	8,338	7,789	7,694
of which rest of Europe	5,453	4,417	4,365
of which Americas	4,212	3,576	3,632
of which Asia	3,557	3,353	3,364
of which other	1,548	1,356	1,323

[1] In contrast to the Annual Report, the Sustainability Report gives employment figures in headcount instead of simplified FTEs (full-time equivalents). The consolidated companies are reported in the same way as in the Annual Report.

[2] In FY 2021/22 only 20,491 employees were included in the analysis, because Argo-Hytos was only added to the HR system in December 2022. As a result, variations per region deviate from the variations in the Annual Report.

[3] Due to part-time work, the regional distribution in headcount differs from the Annual Report; the figures are reported in FTEs (full-time equivalents).

Number by main countries	FY 2022/23	FY 2021/22	FY 2020/21
Germany	8,338	7,789	7,694
China	2,648	2,446	2,463
USA	2,098	2,033	1,939
India	1,548	1,356	1,323
Brazil	1,478	948	967
Austria	1,345	1,331	1,341

At the end of FY 2022/23, 23,108 employees (previous year: 20,491) were employed by the Voith Group, 12.8 % more than in the previous fiscal year. The headcount increased in all regions: Asia grew by 6.1 %, Germany by 7.0 %, the rest of Europe by 23.5 %, the Americas by 17.8 %, other regions by 14.2 %.

Our core workforce is structured according to the principle of commercial prudence. Greater workforce flexibility through the use of temporary employment enables us to manage order peaks and therefore to respond quickly and flexibly in what are often very volatile markets. The engagement of employees from external companies is governed by a Group Directive.

Employees by employment type

Full-time and part-time employees by age and gender Number	FY 2022/23	FY 2021/22	FY 2020/21
Full-time	21,836	19,284	19,220
of which women	3,610	2,943	2,921
of which men	18,226	16,341	16,299
of which < 30 years	2,697	2,345	2,301
of which 30 – 50 years	12,311	10,737	10,729
of which > 50 years	6,828	6,202	6,190
Part-time	1,272	1,207	1,158
of which women	873	838	822
of which men	399	369	336
of which < 30 years	106	114	105
of which 30 – 50 years	656	601	571
of which > 50 years	510	492	482
Permanent and temporary employment contracts[1] Number	**FY 2022/23**	**FY 2021/22**	**FY 2020/21**
Permanent employment contract	20,798	18,490	18,316
Temporary employment contract	2,310	2,001	2,062
Ratio of permanent to temporary employment contracts[1] in %	**FY 2022/23**	**FY 2021/22**	**FY 2020/21**
Permanent employment contract	90.0	90.2	89.9
Temporary employment contract	10.0	9.8	10.1
Ratio of direct and indirect employees to total workforce[1] in %	**FY 2022/23**	**FY 2021/22**	**FY 2020/21**
Direct employees	52.1	51.3	51.1
Indirect employees	47.9	48.7	48.9
Temporary employees[1] Number	**FY 2022/23**	**FY 2021/22**	**FY 2020/21**
Voith Group	1,141	1,226	1,233

[1] Presentation format was adjusted retroactively in FY 2020/21.

In the reporting year, 1,141 employees (previous year: 1,226) were employed by Voith through temporary employment agencies, 6.9 % fewer than in the previous year. Temporary employment is a commonplace market instrument used to respond flexibly to short-term order peaks. The number of temporary employment contracts rose by 15.4 % to 2,310 in the reporting year (previous year: 2,001).

Details on upholding the rights of employees

Collective bargaining agreements in %	FY 2022/23	FY 2021/22	FY 2020/21
Employees covered by collective bargaining agreements	56.9	63.0	63.9
of which Germany	90.6	95.6	95.9
of which Europe excluding Germany	54.2	66.2	69.3
of which Americas	43.8	48.6	48.5
of which Asia	13.7	14.8	16.5
of which other	20.0	22.3	23.2

In the 2022/23 fiscal year, 57% (previous year: 63%) of employees worldwide were covered by a collective bargaining agreement. The slight decrease compared to the previous year is due to changes in the Group.

Measures for socially responsible restructuring and job security

Voith keeps all available options open in a proactive manner to avoid headcount reductions. In addition to natural headcount fluctuation, we make use of instruments such as working time accounts, early retirement, semi-retirement, severance offers, and mutually negotiated termination agreements. Use of these tools is agreed with employee representatives and unions. We also employ interim employment companies and vocational training measures. If work has to be transferred between locations, the employees concerned receive offers for continued employment at other Voith locations wherever possible. Ultimately, wherever headcount reductions are necessary, we always strive for the most socially responsible solution.

At our international locations, we also strive to safeguard employment and involve employee representatives in the process wherever possible. Moreover, we endeavor to avoid compulsory redundancies and to make any necessary headcount reductions as socially responsible as possible, in line with best practice in Germany.

Examples of socially responsible restructuring and safeguarding of locations in Germany:

- At our **Heidenheim location**, a multi-year agreement has been in place since 2020 to safeguard the location, replacing a prior agreement from 2015. Key points are workforce adjustments that forego compulsory redundancies, as well as investments in future-proof topics to create jobs and maintain the location.
- At our **Crailsheim location**, an agreement between the parties has been in place for many years to safeguard the location.
- At our **Sonthofen location**, an agreement to safeguard the location has been in place since December 2021.
- At our **Kiel location**, a company wage agreement was concluded with the trade union, which refers to the applicable collective wage agreements in the state of Schleswig-Holstein.

Trade union agreements – example of Brazil

At our **São Paulo**, **Mucuri**, and **Ponta Grossa locations in Brazil**, the employment contracts of all employees apart from senior executives are tied into trade union agreements that include a range of social provisions: for example, former employees continue to receive medical assistance and food provision from Voith for up to six months after their employment has ended. Moreover, employees approaching retirement are guaranteed that their employment cannot be terminated for up to 18 months before they leave the company, depending on their length of service.

Expenditure for employees

Expenditure for employees in million €	FY 2022/23	FY 2021/22	FY 2020/21
Expenditure for wages and salaries	1,461	1,301	1,247
Expenditure for social security contributions, pensions, benefits	313.7	281.2	268.6
Expenditure for training and career development	4.7	3.9	2.3

Diversity in management and in the workforce[1)]

Employment ratio of people with severe disabilities in %[2)]	FY 2022/23	FY 2021/22	FY 2020/21
Employment ratio of people with severe disabilities	3.5	3.7	4.0
Diversity in the Senior Management Circle Number	FY 2022/23	FY 2021/22	FY 2020/21
Senior Management Circle	88	93	95
Proportion of women in %	13.6	11.8	6.3
Distribution of women and men at management levels Number	FY 2022/23	FY 2021/22	FY 2020/21
Executive Management, Senior Management Circle	96	99	106
Proportion of women in %	12.5	11.1	5.7
Upper management	165	174	158
Proportion of women in %	10.3	8.0	7.6
Mid level management	1,534	1,503	1,459
Proportion of women in %	11.9	10.6	10.1
Total (across all management levels)	1,787	1,770	1,712
Proportion of women in %	11.9	10.5	9.7

[1)] New data basis since FY 2020/21; retroactive adjustment is not possible due to redefinition.

[2)] The employment ratio of employees with severe disabilities is only recorded in Germany.

Flexible working time models

Availability of flexible working time models[1)] Number	FY 2022/23	FY 2021/22	FY 2020/21
Voith Group	16,698	16,023	17,024
of which women	3,270	3,045	3,195
of which men	13,428	12,978	13,829
of which < 30 years	1,989	1,879	1,944
of which 30–50 years	9,164	8,735	9,296
of which > 50 years	5,545	5,409	5,784

[1)] Proportion of employees with flexible working time models (e.g. flextime, saving and reducing overtime, sabbaticals).

Examples of flexible working time models
In Germany, leaves of absence for educational purposes are regulated by law and by collective agreements. In this context several years ago, an additional agreement was reached with the Works Council to introduce subsidized part-time training at our Heidenheim location. This model enables employees to work in an "active" phase for reduced remuneration, followed by a "passive" phase in which employees can utilize the time available for vocational training while continuing to be renumerated.

Voith employees at our locations in the USA and Canada also profit from flexible working options, insofar as their respective roles allow this. Having the flexibility to adapt their working hours to suit their needs is important for working parents, for example. In response to the challenges posed by the Covid-19 pandemic, we drew up a new Remote Work Policy at Voith. This offers executives with supervisory roles greater flexibility to agree needs-based solutions for work arrangements with their employees. In the USA, Voith has also granted our employees two weeks of additional paid parental leave after the birth of a child since 2018. To improve work-life balance for our employees and their families, a new summertime regulation was introduced in the North America region in 2022. This arrangement enables our employees to organize their working time flexibly across the working week, so that every year from the end of May until the beginning of September, they can leave work early on a Friday afternoon.

In response to the Covid-19 pandemic, we expanded our Remote Work Policy as far as possible to all our locations in the South America region, so that around 71 % of all employees are now able to work remotely. Our apprentices and interns continued to receive full pay throughout the pandemic.

We are also applying remote work policies in the APAC region to enable us to respond to business needs or exceptional situations such as pandemics. They ensure sustainable work performance to meet customer needs, while at the same time offering our employees the flexibility they need to increase work productivity and job satisfaction.

	Percentage of flexible working time models in %	FY 2022/23	FY 2021/22	FY 2020/21
	Voith Group	72.3	78.2	83.5
	of which women	72.9	80.5	85.4
	of which men	72.1	77.7	83.1
	of which < 30 years	71.0	76.4	80.8
	of which 30–50 years	70.7	77.0	82.3
	of which > 50 years	75.6	80.8	86.7
Parental leave	**Employees entitled to parental leave** Number	FY 2022/23	FY 2021/22	FY 2020/21
	Voith Group	18,198	19,036	19,940
	of which women	3,589	3,581	3,686
	of which men	14,609	15,455	16,254
	Employees who began parental leave in the fiscal year[1] Number	FY 2022/23	FY 2021/22	FY 2020/21
	Voith Group	324	348	360
	of which women	86	84	123
	of which men	238	264	237

[1] Presentation format was adjusted retroactively in FY 2020/21.

Employee turnover	**Employees who left the company by age group, gender, and region** Number	FY 2022/23	FY 2021/22	FY 2020/21
	Voith Group	2,367	2,310	2,386
	of which women	373	392	350
	of which men	1,994	1,918	2,036
	of which < 30 years	506	450	412
	of which 30–50 years	1,107	1,069	1,122
	of which > 50 years	754	791	435
	of which Germany	609	535	706
	of which Europe excluding Germany	621	472	466
	of which Americas	787	970	818
	of which Asia	218	250	277
	of which other	132	83	119
	Employees who left the company by age group, gender, and region in %	FY 2022/23	FY 2021/22	FY 2020/21
	Voith Group	11.0	12.1	12.3
	of which women	9.1	11.1	9.8
	of which men	11.4	12.3	12.9
	of which < 30 years	19.7	20.5	18.5
	of which 30–50 years	9.3	10.2	10.5
	of which > 50 years	10.7	12.2	13.1
	of which Germany	7.6	7.1	9.3
	of which Europe excluding Germany	12.5	11.6	11.4
	of which Americas	19.7	27.5	22.3
	of which Asia	6.2	7.5	8.2
	of which other	12.1	11.4	16.8

New hirings

New employee hires by age group, gender, and region Number	FY 2022/23	FY 2021/22	FY 2020/21
Voith Group	2,986	2,565	1,706
of which women	526	434	276
of which men	2,460	2,131	1,430
of which < 30 years	1,028	948	597
of which 30–50 years	1,549	1,251	827
of which > 50 years	409	366	282
of which Germany	649	664	375
of which Europe excluding Germany	608	522	342
of which Americas	1,358	926	687
of which Asia	183	307	236
of which other	188	146	66

Percentage of new employee hires by age group, gender, and region in %	FY 2022/23	FY 2021/22	FY 2020/21
Voith Group	12.9	12.5	8.4
of which women	2.3	2.1	1.4
of which men	10.6	10.4	7.0
of which < 30 years	4.4	4.6	2.9
of which 30–50 years	6.7	6.1	4.1
of which > 50 years	1.8	1.8	1.4
of which Germany	2.8	3.2	1.8
of which Europe excluding Germany	2.6	2.5	1.7
of which Americas	5.9	4.5	3.4
of which Asia	0.8	1.5	1.2
of which other	0.8	0.7	0.3

Attracting and promoting talent

Training and further education hours by hierarchical employee category[1]

Training hours in the Voith Group Number	FY 2022/23	FY 2021/22	FY 2020/21
Voith Group	127,580	126,339	118,178
of which women	27,784	29,680	37,564
of which men	99,796	96,658	80,614
of which < 30 years	20,382	19,461	16,535
of which 30–50 years	73,470	79,178	70,556
of which > 50 years	33,728	27,700	31,087
Executive Management, Senior Management Circle	496	749	1,584
Upper management	1,731	2,062	2,677
Mid level management	17,332	19,513	20,398
All other employees	108,021	104,015	93,519
Average training hours per employee Number	**FY 2022/23**	**FY 2021/22**	**FY 2020/21**
Voith Group	5.5	6.2	5.8
of which women	6.2	7.8	10.0
of which men	5.4	5.8	4.8
of which < 30 years	7.3	7.9	6.9
of which 30–50 years	5.7	7.0	6.2
of which > 50 years	4.6	4.1	4.7
Executive Management, Senior Management Circle	5.2	7.6	14.9
Upper management	10.5	11.9	16.9
Mid level management	11.3	13.0	14.0
All other employees	5.1	5.6	5.0
Number of employees who underwent further training	**FY 2022/23**	**FY 2021/22**	**FY 2020/21**
Voith Group	17,689	14,942	11,997
Percentage of employees who received performance and career development reviews[2] in %	**FY 2022/23**	**FY 2021/22**	**FY 2020/21**
Voith Group	68.6	–	–
of which women	73.4	–	–
of which men	67.5	–	–
Executive Management, Senior Management Circle	63.5	–	–
Upper management	83.6	–	–
Mid level management	87.2	–	–
All other employees	66.4	–	–

[1] New data basis since FY 2020/21; retroactive adjustment is not possible due to redefinition.

[2] Cannot be evaluated for the 2020/21 and 2021/22 fiscal years.

Vocational training

Vocational training Number	FY 2022/23	FY 2021/22	FY 2020/21
Apprentices and students	745	723	757
of which in Germany	435	453	499
of which at the Heidenheim location	282	289	330

Occupational health and safety

Certifications

Existing certifications at Voith locations

Degree of coverage based on employees in %	FY 2022/23	FY 2021/22	FY 2020/21
ISO 50001	17	17	17
ISO 14001	81	81	81
ISO 9001	81	82	82
ISO 45001	77	81	81

The figures include all locations.

Approach to preventing and handling negative health and safety impacts

Regarding our own locations, construction sites and products, Voith's approach to preventing negative health and safety impacts is as follows:

1. We continually apply the proven system of regional support described in the "Occupational health and safety" section, and are gradually expanding the system within our own locations to improve its quality and effectiveness.
2. We perform advance risk assessments at our construction sites and during on-location activities at our customers' premises. These are updated on a regular and a needs basis, and involve a careful examination of many aspects, including how the various trades are coordinated in relation to safety aspects. We also analyze work-related accidents in close cooperation with our customers on site, jointly adopting protective measures to prevent further accidents.
3. We ensure strict compliance with regulatory requirements starting from the product development and application stages. In addition, our products undergo a series of test and inspection stages. We systematically incorporate the findings from these processes, together with information from market and product monitoring, into all further product development.

Comprehensive occupational safety audit system established

To identify and analyze work-related risks and hazards in connection with occupational safety, Voith has implemented a comprehensive audit system in addition to our overarching risk management process.
STF accidents (Slips, Trips, Falls) and crane accidents were identified as the greatest potential hazards in the reporting period. Furthermore, most injuries continue to involve the hands and we are therefore continuing to focus on the topic of hand protection. Since January 2021, this has been the subject of a global campaign to raise awareness among employees working in the operative areas of Operations, Service, Logistics, and Training.

The campaign is based on a four-stage action plan, as follows:

- Providing information on the relevance of hand protection
- Communicating additional facts on accident figures and accident severity with the aid of specific examples designed to raise awareness
- Mandatory participation of all our organizational unit employees in two practical workshops on nine specific hand-safety topics
- Establishing ongoing communication of best practices

Employee representation on committees

Total number of employees[1] represented on Health and Safety Management-Worker Committees in %	FY 2022/23	FY 2021/22	FY 2020/21
Voith Group	80	80	80

[1] Based on headcount.

Occupational accidents

Occupational accidents Number	FY 2022/23	FY 2021/22	FY 2020/21
Total occupational accidents	75	61	79
of which fatal	0	0	1
of which severe	1	2	2

Frequency Rates[1] in %	FY 2022/23	FY 2021/22	FY 2020/21
Occupational accidents per 1 million working hours	1.8	1.6	2.1

Occupational accidents - personnel working for Voith who are not Voith employees Number	FY 2022/23	FY 2021/22	FY 2020/21
Occupational accidents	77	77	71

[1] Number of occupational accidents or work-related sickness periods resulting in downtime (1 day or more) per 1 million working hours.

Voith has kept a central record of third-party occupational accident data since October 2017. Each incident is documented and tracked in a full incident report. Voith's reporting system does not currently differentiate between degrees of accident severity or working hours lost. Due to the different data gathering methods, these values are not comparable with the data provided on our own employees.

Severity Rate[1] Number	FY 2022/23	FY 2021/22	FY 2020/21
Voith Group	362.4	491.9	537.2
Germany	305.3	500.1	655.2
Europe excluding Germany	548.6	652.4	144.6
Americas	537.8	820.9	1,148.9
Asia	132.0	67.7	116.7
Other	212.7	1,341.0	508.1

[1] Working hours lost due to occupational accidents per 1 million working hours.

Environment

Management approach

Hot spot analysis methodology

Hot spot analyses show consumption (energy, water, materials, etc.) by control and analysis level (i.e. region, Group Division, location, plant, process). They clearly pinpoint hot spots of high physical consumption and correspondingly high costs.

Based on this, we develop and evaluate project ideas for improvement, and pursue them step by step in a stage-gate process until they are implementation-ready. We employ economic and environmental evaluation criteria in accordance with the Green Controlling cycle. Furthermore, we regularly review the distribution of consumption, based on changes in location activities or adjustments to plant machinery and equipment, which can result in varying consumption or changes in the framework conditions.

Energy efficiency and climate protection

Methodology for recording energy consumption and GHG emissions

In recording its GHG emissions, Voith follows the guidelines of the Greenhouse Gas Protocol (GHGP). In general, we record the main direct and indirect energy sources (Scope 1 and 2) at our locations monthly, and in a few exceptional cases annually.

The emission factors for direct and indirect energy consumption sources are taken from recognized databases (e.g. DEFRA or IEA publications) and supplemented with primary data where available. The emissions and GHG impact of refrigerants are also recorded and calculated.

[1] DEFRA: UK Department for Environment, Food and Rural Affairs; IEA: International Energy Agency

Total energy consumption

Total energy consumption in MWh	FY 2022/23	FY 2021/22[1]	FY 2020/21
Energy consumption within the organization (Scope 1 and 2)	633,549	692,645	501,810
Direct energy consumption (Scope 1)	288,338	324,887	163,679
Natural gas	250,402	282,613	126,591
Heating oil	3,455	4,166	5,197
Diesel	14,849	17,286	16,280
LPG	11,228	12,952	8,891
Gasoline	7,715	6,982	4,364
Biomass/biogenic energy sources/hydrogen	689	888	2,355
Indirect energy consumption (Scope 2)	345,211	367,758	333,502
Electricity	286,013	294,765	259,758
from renewable sources	211,113	222,595	95,943
District heating	55,347	67,399	67,620
from renewable sources	35,038	45,206	4,270
Steam	3,851	5,594	6,490
from renewable sources	n/a	n/a	n/a
Energy sold	29,313	39,665	-366
Self-generated renewable energy	11,712[2]	14,331[2]	4,629

[1] From the 2021/22 fiscal year onward, total energy consumption will be reported, including fully consolidated acquisitions and the gas-fired power plant in Heidenheim. The inclusion of the Heidenheim power plant results in a shift in direct energy consumption (Scope 1) in relation to total energy consumption. Losses are included. Adjusted retroactively.

[2] Starting from the 2021/22 fiscal year: self-generated renewable energy is included in reported energy consumption.

Energy-saving measures and further potentials

Measures to reduce energy consumption and GHG emissions

The reporting period saw the following savings in energy consumption and/or GHG emissions:

- Conversion of gas heating to low-CO_2 district heating at our Garching location (Germany) (440,000 kWh)
- Conversion to LED lighting at various locations (459,000 kWh)
- Optimization of machine tools in Crailsheim (Germany) (362,169 kWh)
- New skylights in Heidenheim (Germany) (211,000 kWh)
- Optimization of painting process in Salzgitter (Germany) (282,099 kWh)
- Replacement of manual thermostats with radio-controlled thermostats at Voith Hydro production facilities in Heidenheim (Germany) (317,000 kWh)
- Conversion to electric forklifts at Voith Hydro in St. Pölten (Austria) (39,000 kWh, 21 t CO_2)
- Conversion of vehicle fleet to EVs at Voith Hydro in St. Pölten (Austria) (57,000 kWh, 27 t CO_2)
- Conversion to a sandblasting compressor at the Voith Hydro site in Shanghai (China) (79,000 kWh)
- Improved use of solar energy and controlled heating fan switch-off at Voith Hydro in Heidenheim (Germany) (210,000 kWh, 49 t CO_2 – in implementation)
- Conversion to LED at Voith Paper at the Tolosa (Spain), Heidenheim (Germany), and Manchester (UK) locations (170,000 kWh)
- Modernization of the compressed air system in Liaoyang (China), leading to lower energy consumption and reduction in downtimes

Other projects are still in the approval process or are already in the implementation or validation phases.

Reduction in energy consumption as a consequence of conservation and efficiency initiatives in GWh	FY 2022/23	FY 2021/22	FY 2020/21
Energy-saving potential since FY 2011/12	163.8	159.0	141.0
of which achieved in FY	9.1	10.3	7.2
savings already achieved since FY 2011/12	157.0	147.9	137.6

The effectiveness of measures recorded at location level are checked by Ecological Business Management (EBM). Measures controlling is carried out centrally using a measures tool.

Total GHG emissions

Total GHG emissions in t CO_2	FY 2022/23	FY 2021/22[1]	FY 2020/21
GHG emissions within the organization (Scope 1 and 2)	88,663	101,957	142,600[3]
Direct GHG emissions (Scope 1)	56,555	63,389	32,773
Natural gas	46,154	51,992	23,272
Heating oil	986	1,188	1,392
Diesel	3,980	4,657	4,166
LPG	2,586	2,983	1,908
Gasoline	1,963	1,775	1,116
Biomass/biogenic energy sourcesr	6	9	0
Refrigerants	880	783	919
Other renewable energy sources and self-generated renewable energy	0	0	0
Indirect GHG emissions (Scope 2 market-based)[2]	32,108	38,569	109,827[3]
Electricity	28,424	30,362	90,314
District heating	2,729	4,355	15,048
Steam	692	3,852	4,465

[1] New locations were included in the 2021/22 fiscal year reporting and the figures have been adjusted retroactively as a result. This also applies to the following presentations: GHG emissions: specific Scope 1 and 2, Measures for reducing GHG emissions and further potentials and Electricity mix.

[2] Location-based: 2022/23 – 123,344 t CO_2e, 2021/22 – 127,420 t CO_2e, 20/21 – not available.

[3] Adjusted retroactively.

We calculated the Corporate Carbon Footprint (CCF) of the entire Voith Group for the first time in the 2022/23 fiscal year, based on official GHGP metrics. This new method of calculation has resulted in a new value for the previously calculated Scope 1 and 2 emissions. Against this backdrop, we also adjusted the figures retroactively for the 2021/22 fiscal year.

The main reasons for the new values are the following, newly considered data:

- Completion of the energy data from our OUs in particular, which have not yet been included in the reporting
- Inclusion of emissions sold by Voith to third parties as a service at the Heidenheim location
- Completion of the available fuel data and extrapolations at the remaining locations
- Inclusion of market and location-based emissions in Scope 2

GHG emissions: specific Scope 1 and 2

Specific GHG emissions (total emissions Scope 1 and 2) in t CO_2/million € sales revenue	FY 2022/23	FY 2021/22	FY 2020/21
Specific GHG emissions (Scope 1 and 2)	16.1	20.9	33.4

Measures for reducing GHG emissions and further potentials

Reduction of CO_2 emissions as a direct result of conservation and efficiency initiatives in t CO_2	FY 2022/23	FY 2021/22	FY 2020/21
Reduction through efficiency improvements and fuel switching	807.9	–	–

Change in CO_2 emissions in %	FY 2022/23	FY 2021/22	FY 2020/21
Change in CO_2 emissions compared with previous year	-13.0	-29.0	1.5
Change in direct CO_2 emissions	-10.8	93.4	-3.1
Change in indirect CO_2 emissions	-16.8	-64.8	3.0

Compare measures to reduce energy consumption.

Air pollutants

Air pollutants in t	FY 2022/23	FY 2021/22	FY 2020/21
Chlorofluorocarbons (CFCs)[1]	< 1	< 1	< 1
Hydrochlorofluorocarbons (HCFCs)[1]	< 1	< 1	< 1
Sulfur hexafluoride (SF_6)	< 1	< 1	< 1

Indicators for other air pollutants are calculated based on the reported energy consumption, logistics, and business travel data with the aid of LCI[2] conversion factors. Other air pollutants from energy consumption sources generally dominate.

Since the 2018/19 fiscal year, data on NM-VOCs (Non-methane Volatile Organic Compounds) from production-related VOC emissions have no longer been recorded due to their low relevance for Voith. These consist mainly of solvents used in coating or cleaning processes. We strive to reduce these volumes continuously through efficiency and substitution measures, such as in-house distillation.

The closure of the foundry in São Paulo (Brazil) in the 2018/19 fiscal year eliminated our largest dust emitter. There are no other significant individual emitters of dust or heavy metals at Voith.

[1] Ozone-depleting substances in t CFC11e.

[2] Life Cycle Inventory (LCI).

Electricity mix

Electricity mix[3] in %	FY 2022/23	FY 2021/22	FY 2020/21
Renewable resources	73.8	75.5	38.0
Non-renewable resources	26.2	24.5	62.0

[3] The calculation is based on total energy consumption since FY 2021/22. Sold electricity is excluded.

Use of materials and efficiency measures

Materials used

Materials used by weight in t	FY 2022/23	FY 2021/22	FY 2020/21
Total materials/raw materials used	161,884	171,268	159,831
of which raw material	62,926	54,107	52,262
of which semi-finished products	82,655	100,329	90,750
of which packaging	12,203	12,633	13,354
of which auxiliaries and supplies	4,100	4,199	3,465

Materials used in %	FY 2022/23	FY 2021/22	FY 2020/21
Renewable materials	–	–	16
Secondary raw materials	–	–	43

Voith employs country-specific recycling factors to calculate the proportion of secondary raw materials in the total material input. No data can be evaluated for the 2021/22 and 2022/23 reporting years.

Waste and hazardous materials management

Waste volumes

Reclaimed and removed waste by method in t	FY 2022/23	FY 2021/22[1)]	FY 2020/21
Total waste	47,978	54,079	28,793[3)]
Total reclaimed waste	33,369	34,893	22,811
Reused	961	963	668
Recycled	14,007	18,247	1,827[3)]
Composted	131	249	236
Recovered	1,675	1,963	1,592
Other reclamation	16,595	13,471	–
Total removed waste	4,712	5,833	5,805
Incinerated	2,466	2,533	3,167
Landfill at external site	2,162	2,695	2,117
Landfill at company site	–	38	–
Other removal	84	566	521
Foundry sand[2)]	9,897	13,353	178

[1)] New locations entered into the reporting in FY 2021/22, so the figures have been adjusted retroactively.

[2)] In FY 2022/23 foundry sand as an indicator was included in the reporting for the first time. The respective figures were added retroactively.

[3)] Retroactively adjusted.

Alongside the type of waste, the locations also enter the manner of disposal into the database. Possible discrepancies are due to rounding of figures.

Waste-saving measures and further potentials

Reduction in specific waste quantities (without foundry sand) in %	FY 2022/23	FY 2021/22[1)]	FY 2020/21
Reduction in specific waste quantities	-7.6	-1.7	-1.5
Specific waste weight in t/million € sales revenue	FY 2022/23	FY 2021/22	FY 2020/21
Specific waste weight	6.1	6.6	6.7
Material efficiency potential in t	FY 2022/23	FY 2021/22	FY 2020/21
Efficiency potential since FY 2011/12	10,338	11,369	9,000
of which achieved in FY	183	667	145
savings already achieved since FY 2011/12	10,334	9,667	9,000

[1)] New locations entered into the reporting in FY 2021/22, so the figures have been adjusted retroactively.

Hazardous waste

Hazardous and non-hazardous waste in t	FY 2022/23	FY 2021/22[1)]	FY 2020/21
Total waste	47,978	54,079	28,617
Hazardous waste	14,252	18,590	3,582
of which transported	14,252	18,590	3,582
of which imported	–	–	–
of which exported	–	–	–
of which transported between Voith locations	–	–	–
Non-hazardous waste	33,727	35,489	25,036

[1)] New locations entered into the reporting in FY 2021/22, so the figures have been adjusted retroactively.

Water

Water withdrawal

Water withdrawal by source[1] in m³	FY 2022/23	FY 2021/22[2]	FY 2020/21
Total water withdrawal	1,089,297	1,166,256	1,076,327
of which rainwater	487	322	541
of which wastewater procured from other companies	862	891	–
of which freshwater (< 1,000 mg/l total dissolved solids)	1,087,948	1,165,044	1,075,786
of which surface water	67,526	79,173	69,512
of which groundwater	536,718	610,051	626,718
of which public and private water treatment plants	483,705	475,820	379,556
of which other sources (> 1,000 mg/l total dissolved solids)	–	–	–

Water withdrawal by region in %	FY 2022/23	FY 2021/22[2]	FY 2020/21
Germany	46	48	58
Europe excluding Germany	11	16	11
Americas	18	15	11
Asia	24	21	20
Other	< 1	< 1	< 1

Total volume and percentage of reused water in m³	FY 2022/23	FY 2021/22	FY 2020/21
Reused water	0.0	0.0	20.2

Percentage of total water withdrawal in %	FY 2022/23	FY 2021/22	FY 2020/21
Reused water	0	< 0	< 0

Specific freshwater withdrawal in m³/thousand € sales revenue	FY 2022/23	FY 2021/22[2]	FY 2020/21
Specific freshwater withdrawal	0.20	0.24	0.25

[1] Categories are collected centrally via a data-gathering process at the locations.

[2] New locations entered into the reporting in FY 2021/22, so the figures have been adjusted retroactively.

Freshwater saving measures and further potentials

Freshwater efficiency potential in 1,000 m³	FY 2022/23	FY 2021/22	FY 2020/21
Identified efficiency potentials	1.8	0.3	2.4
Savings already achieved in FY	4	49	14
Savings already achieved since FY 2011/12	911	862	813

Wastewater by discharge method and quality

Wastewater by discharge method in m³	FY 2022/23	FY 2021/22[1]	FY 2020/21
Total wastewater	1,030,789	948,282	966,326
Total wastewater in %	FY 2022/23	FY 2021/22[1]	FY 2020/21
of which discharged into the public sewage system	57.7	47.6	42.2
of which discharged as surface water	42.1	52.3	57.5
of which discharged into groundwater	0.2	0.1	0.3
of which reused at another company	–	–	< 1
Total treated wastewater in m³	FY 2022/23	FY 2021/22[1]	FY 2020/21
Total treated wastewater	55,932	48,708	33,737
Total treated wastewater in %	FY 2022/23	FY 2021/22[1]	FY 2020/21
of which discharged into the public sewage system	38.2	56.9	47.6
of which discharged as surface water	36.4	43.1	51.6
of which discharged into groundwater	0.4	–	0.8
of which reused at another company	25.0	–	–
Total untreated wastewater in m³	FY 2022/23	FY 2021/22[1]	FY 2020/21
Total untreated wastewater	974,857	899,574	932,589
Total untreated wastewater in %	FY 2022/23	FY 2021/22[1]	FY 2020/21
of which discharged into the public sewage system	58.0	47.1	42.0
of which discharged as surface water	41.8	52.8	57.7
of which discharged into groundwater	0.2	0.2	0.3
of which reused at another company	–	< 1	< 1
Wastewater quality[2] in t	FY 2022/23	FY 2021/22	FY 2020/21
Biological oxygen demand (BOD)[3]	2.1	1.5	3.6
Chemical oxygen demand (COD)	5.3	5.9	10.8
Total suspended solids (TSS)	4.8	2.1	3.2
Heavy metals	0.0	0.0	< 1
Nitrogen	2.2	0.3	1.9
Phosphorus	< 1	< 1	< 1

The monitoring processes for measuring and controlling wastewater quality at our locations fulfill the respective local statutory requirements.

[1] New locations entered into the reporting in FY 2021/22, so the figures have been adjusted retroactively.

[2] Emissions in wastewater are based on volumes of wastewater flows that are subject to monitoring at Voith locations, and the respective average of the measured concentrations.

[3] Biochemical oxygen demand after 5 days; official measurement of the amount of oxygen required by microorganisms to break down substances present in the water in five days at 20 °C.

Products and supply chains

Management approach

R&D expenditure

Research and Development in million €	FY 2022/23	FY 2021/22	FY 2020/21
R&D expenditure	232	213	192
Research and Development in %	**FY 2022/23**	**FY 2021/22**	**FY 2020/21**
R&D percentage	4.2	4.4	4.5

Reliable and safe products

Quality targets

- Ensure that customer requirements are met to their complete satisfaction
- Comply with legal, regulatory, and further official requirements
- Ensure the quality of products and services
- Reduce quality and risk costs, especially error costs
- Reduce technical risk potentials and the probability of their occurrence
- Increase efficiency and effectiveness through consistent, clear structures
- Ensure the professional development and qualification of employees
- Align all measures with increasing efficiency and effectiveness
- Ensure Group-wide reporting and data analysis with the aim of reducing quality, environmental, health, occupational safety, and regulatory risks, and identify early warning signals for risk management
- Focus on preventive measures, e.g. FMEA and DRBFM

Product impacts by Group Division

Further information on conducted Life Cycle Assessments

Voith Hydro ↑
Voith Paper ↓

At **Voith Hydro**, a generic Life Cycle Assessment (LCA) model for hydropower plants was created back in 2010 and evaluated in a case study for a pumped storage plant. A detailed LCA for StreamDiver applications was carried out in 2018, and a LCA for vanadium redox flow batteries was also completed in the 2021/22 fiscal year. We are receiving more and more customer inquiries about the carbon footprint of Voith Hydro products. To meet these requirements, we created a simplified tool in the 2021/22 fiscal year, based on data from the world's leading LCA database, Sphera (formerly GaBi), and revised the tool in this reporting year. It enables us to make fast and reliable statements about the carbon emissions of our products. In addition to the materials and quantities used, information on transportation is also taken into account.

Analysis of overall process and sub-processes
The spectrum of LCAs/PCFs carried out at **Voith Paper** ranges from a fundamental analysis of the paper production process from 2014 to LCAs from the 2021/22 fiscal year, which were prepared for different yarn types used in the production of fabrics. Data collection for calculating LCAs/PCFs for wear and consumable products began in the 2021/22 fiscal year. We meet our customers' requirements regarding LCA or PCF data for wear and consumable products in the Voith Paper Division by performing analyses for relevant products and making the findings available to our customers.

Calculation using recognized tools and methods
LCA/PCF calculation is conducted using the LCA for Experts Software System and Database for Life Cycle Engineering from Sphera Solutions GmbH or with an internal tool for LCA/PCF calculation. The internal calculation tool complies with the Greenhouse Gas Protocol Product Life Cycle Accounting and Reporting Standard and is used in product development.

LCA/PCF calculation is based on primary data from our own operations and from our suppliers, combined with cradle-to-gate background data sources, which include the MLC Databases 2023 Edition from Sphera Solutions GmbH as well as publicly available data. Representativeness, consistency, accuracy, and geographical, temporal, and technological relevance are taken into account when procuring and selecting which data should be used.

The available analyses of the global warming potential of our Voith Paper products in the cradle-to-gate system boundaries show that the majority of carbon emissions occur in the raw material extraction phase of a product. In the case of fabrics, for example, the emissions of a product during raw material extraction can account for up to 90 % of the total PCF, depending on the product type, selected supplier, and manufacturing location. We are working hard to identify raw materials with a lower carbon footprint for our wear and consumable products such as roll covers and fabrics.

Voith Turbo

VECO-Drive

Vorecon

At **Voith Turbo**, an LCA for drive systems with DIWA NXT (combustion engine), DIWA NXT+CRU (hybrid transmission), and VEDS (electric drive) for city buses was carried out in the 2020/21 fiscal year. We also performed a comparative LCA with cradle-to-grave limits for reliable speed control of work machines such as the VECO Drive and the Vorecon. However, this analysis does not correspond to the LCA according to DIN EN ISO 14040 and DIN EN 14044, as the cost of the LCA would have exceeded the economically viable scope.

For Voith Hydro products, most carbon emissions occur during the extraction of raw materials and, to a lesser extent, during production and transport; virtually no carbon is emitted during operation. In addition, Voith Turbo's analyses once again show the importance of the Group Division's electrification strategy. For example, a city bus drive system with electric drive causes significantly lower emissions during the use phase than comparable technologies with a fossil fuel or hybrid drive. Due to the extremely long use phase of paper production plants, which is often over 50 years, the proportion of carbon emissions in the use phase can be twenty times higher than in the production phase. From a LCA perspective, it is therefore particularly important to increase energy efficiency of the paper production process through innovative products and processes without neglecting carbon emissions during paper production.

Further information on social and environmental impacts at Voith Hydro

Technology	Sustainability impacts	Area of application (product group)
Cavitation Intensity Monitoring: Enables statements on the intensity of damaging cavitation, depending on the operating state. **Cavitation Erosion Detection:** Enables statements on material abrasion and damage to affected components. The results of these two procedures are used to create status-based analysis reports and derive action recommendations.	• Improved repairability • Improved upgrade and retrofit capability • Improved service life technology	• Condition monitoring • System/Digital Hydro/ HyService application area
StreamDiver: Enables the installation of new hydropower plants under strict environmental regulations at existing retaining dams, locks, and irrigation dams, allowing energy potentials to be exploited that cannot otherwise be tapped with conventional power plant concepts.	• Improved energy efficiency	• Small hydro

Handling sound and noise emissions at Voith Hydro

At Voith Hydro, noise emission targets are set on a project-specific basis in our calls for tender. Specifically regarding noise emissions, Voith Hydro pursues the goal of predicting noise emissions increasingly accurately and defining the necessary abatement measures in advance.

One example of a project-specific measure to reduce noise emissions is Voith's turbine gearbox for the Barrage du Seujet hydropower plant on Lake Geneva. For many years, the power plant could not be operated at night due to low-frequency vibrations that were clearly discernable inside the buildings in the neighboring residential area. Together with the power plant operator's technical partner, Voith developed a concept for an improved gear unit arrangement, achieving an outstanding gear system efficiency of over 99 % in the process. Moreover, it was possible to reduce noise emissions to such an extent that the power plant can now be operated continuously.

Further information on technologies for improved social and environmental impacts at Voith Paper
(selection)

Technology	Sustainability impacts	Area of application (business area)
Market launch of the **InduraClean IDC-4 cleaner family**, which focuses on significantly increasing production volumes, reducing energy consumption by up to 50 %, and greatly improving separation efficiency, depending on the process requirements.	• Very high separation efficiency • Significantly higher throughput, meaning a smaller number of cleaners is required • 40 % lower energy consumption[1)]	• Products & Services • Projects
Following extensive fluid mechanics tests in our pilot plants and by using 3D printing in production, we were able to completely redesign key functional components of the **EdgeSaver**. This has significantly expanded its range of applications to save fibers and energy for even more customers. Eight installations have already been sold.	• Improved resource and material efficiency	• Products & Services
Innovative pulping process: This new paper pulping concept enables a significantly more energy-efficient pulping of wastepaper (-30 %). Following the successful operation of a pilot plant for internal waste processing at the customer's site since February 2022, multiple trials lasting several days were carried out using corrugated cardboard packaging as a raw material. The technology was further optimized with the aim of ensuring continuous operation.	• Improved energy efficiency • Improved carbon footprint • Lower consumption of resources during product creation, as the concept allows for a much more compact design than previous paper pulping concepts	• Projects
ProLube/FilmLube: The freshwater consumption of lubrication spray pipes is greatly reduced, and the moisture cross profile of the wet felts is significantly more uniform. This increases the service life of press felts by up to 30 %. The machine environment is also safer for the machine operators, as no spray water mist is deposited, avoiding the issue of slippery walkways.	• Improved safety • Improved service life	• FRS
Sustainable water management: Depending on the AquaLine concept (AquaLine Pure, AquaLine Flex, or AquaLine Zero), the amount of freshwater required per ton of paper produced can be reduced significantly. Starting with AquaLine Pure, the most innovative AquaLine Zero system can reduce freshwater consumption by a further 4 m^3 per ton of paper produced. With an annual production capacity of 750,000 tons of paper, this corresponds to a saving of around 3 million m^3 of freshwater per annum. AquaLine Zero also makes it possible to completely close the water cycle, reducing the amount of wastewater to 0 m^3 per ton of paper while cutting carbon emissions by around 10 %.	• Improved environmental compatibility • Improved resource and material efficiency • Reduction of carbon emissions through the production of biogas via an anaerobic purification stage	• Projects
Polyurethane roll cover: Roll covers with a significant proportion of bio-based raw materials continue to have excellent product properties and have been commercially available to our customers in field trials since October 2021. The SolarFlow Green is a roll cover with bio-based raw materials that contains a bio-based material content certified in accordance with DIN CERTCO (ISO 16620-2:2019).	• Reduced product carbon footprint	• FRS
Composite roll cover: With AiroGuide Tune Green, the worlds first roll cover with a bio-based content certified according to DIN CERTCO (ISO 16620-2:2019) has been commercially launched.	• Reduced product carbon footprint	• FRS
QualiFlex press sleeves: Extensive tests have shown that the polyurethane chips produced during the machining of press sleeves can be thermally reprocessed into thermoplastic polyurethane, saving incineration of around 6 tons of polyurethane waste per month. This is marketed in cooperation with our supplier Covestro. A second project developed a press sleeve with a prepolymer produced using the mass-balanced process. This sleeve is approx. 80 % bio-based and is currently being tested in field trials.	• Reduced product carbon footprint	• FRS

	Forming screens: Forming screens were developed to reduce the load absorption in the former. As a result of the completed field test phase, nine out of ten fabrics showed lower energy absorption in the forming section. Field tests to reduce load absorption were completed in the previous fiscal year and showed that the use of the innovative material allows a targeted release of water for improved lubrication. The resulting optimized friction conditions reduce the load absorption in the former.	• Improved energy efficiency	• FRS

[1] Basis: Before-after comparison in the conversion project at the Palm Paper Mill in Wörth, Germany.

Further information on social and environmental impacts at Voith Turbo

Voith fans

Approach to dealing with sound and noise emissions at Voith Turbo

Voith Turbo works continuously to reduce the noise emissions of its products. To this end, Voith Turbo always complies fully with the technical specification for interoperability (TSI) of the subsystem "rolling stock noise" (TSI Noise) according to EU Regulation 1304/2014, as well as DIN EN ISO 3095 ("Acoustic railroad applications: Measurement of noise emitted by rail bound vehicles"). Other noise emission standards such as DIN EN ISO/TR 11688-1/2 are also met. Examples of this are the Silent Vent fan wheel and a new railcar transmission test bench that allows Voith Turbo to conduct detailed noise measurements, advancing the optimization of railcar transmission noise emissions.

Responsibility in the supply chain

Procurement markets

Regional distribution in %	FY 2022/23	FY 2021/22	FY 2020/21
Europe	65	58	61
Americas	17	20	16
Asia	18	21	23
Other	0	1	0

Conflict minerals

Due diligence review in compliance with the US Dodd-Frank Act at Voith Turbo in %	FY 2022/23	FY 2021/22	FY 2020/21
Percentage of relevant suppliers identified for the investigation of conflict minerals	52	52	52
Response rate of the relevant suppliers	90	91	88

The Voith Turbo Group Division reports on conflict minerals in accordance with the legal requirements of the United States Securities and Exchange Commission (SEC). Moreover, Voith Turbo is committed to taking appropriate steps within its organization in relation to its own supply chain to ensure that Voith Turbo products contain no conflict minerals within the meaning of Sections 1502 and 1504 of the US Dodd-Frank Act.

Voith Turbo Quality Guideline

In addition to the requirements set out in our GPC, the Quality Guideline of the Voith Turbo Group Division specifies further requirements for dealing with conflict minerals (see item 7.3.2 Conflict minerals, Quality Guideline). The Quality Guideline is publicly available. It provides a clear definition of conflict minerals and conflict resources, and it also contains detailed due diligence and reporting obligations for suppliers on the topic of conflict minerals as defined by the Dodd-Frank Act.

For instance, we require our direct suppliers to source 3TG (tantalum, tungsten, tin, and gold) from smelters whose due diligence has been certified by an independent third-party audit program, such as the Responsible Minerals Assurance Process (RMAP) under the Responsible Minerals Initiative (RMI).

Data from over 90 % of our suppliers

All relevant Voith Turbo suppliers are required to provide information on conflict minerals in the products they supply, using the standardized Conflict Minerals Reporting Template (CMRT) of the Responsible Minerals Initiative (RMI). The CMRT complies with the IPC-1755 Conflict Minerals Data Exchange standard and thus covers all reporting requirements resulting from the US Dodd-Frank Act.

Voith Turbo suppliers are subject to a regular audit process, whereby the number of suppliers to be audited increased slightly in the reporting year. Nevertheless, we were able to raise the response rate above the required CMRT threshold of 90 % thanks to a more user-friendly preparation and comprehensive supplier support. The remaining 10 % are suppliers who are either reluctant to cooperate or have refused to cooperate altogether. We pass these cases on to the relevant Material Group Manager (MGM), who will, if necessary, decide to terminate the business relationship with the supplier in question.

Training scope

Training of Purchasing employees worldwide Number	FY 2022/23	FY 2021/22	FY 2020/21
Purchasing employees	450–500	approx. 450	approx. 450
Purchasing employees trained [1]	516	almost all	almost all
Total training hours of Purchasing employees	5,942	7,197	4,522

[1] Evaluation based on HR/5 job families in Purchasing.

Supplier risk assessment

Evaluation of existing suppliers

Independently of the risk analysis to determine SCA-critical suppliers, the Voith Hydro and Voith Turbo Group Divisions have already been conducting independent supplier risk assessments for many years.

Voith Turbo has implemented a multi-stage supplier risk assessment process. In addition to basic risk categories such as creditworthiness, quality and delivery reliability, competitiveness, and customer structure, the process includes further risks such as geographical location, geopolitical risk, and potential supply system interruption.

Voith Turbo employs the VDA 6.3 Process Audit standard for supplier assessments (assessing potential suppliers with regard to the fulfillment of our criteria) and supplier audits (assessing existing suppliers with regard to our requirements). This includes questions about occupational health and safety, and environmental protection: For example, it checks whether the supplier has implemented a system for occupational HSE protection, and whether there is a system in place for implementing material compliance requirements (EC 1907/2006 REACH or, in the case of electronics suppliers, Directive 2011/65/EU ROHS).

At Voith Hydro, suppliers are subject to in-depth compliance and quality checks throughout the whole lifecycle. Before being included in the supplier database, suppliers are subject to a check of integrity (including compliance and HSE criteria), financial stability, implemented quality systems, as well as experience and references in existing cooperations. Suppliers of key power plant components and services are also subject to on-site audits. These audits are carried out jointly by Quality Assurance and the Supplier Development and Support function located in Purchasing. To ensure the highest level of quality assurance, Quality Management always retains the final decision in the approval process through a right of veto.

Supplier self-assessment

Suppliers who have completed a self-assessment Number	FY 2022/23	FY 2021/22	FY 2020/21
Compliance and Sustainability questionnaire/check	5,056	2,671	3,417

Suppliers who have completed a self-assessment in %	FY 2022/23	FY 2021/22	FY 2020/21
Percentage of invoice volume from suppliers with Compliance and Sustainability questionnaire/check	56.1	52.0	67.4

Once migration to the new PurONE purchasing system was completed in FY 2021/22, the Compliance and Sustainability questionnaire became a mandatory part of the supplier registration process. For this reason we predict the figures to rise again in future.

Supplier evaluation

Evaluations of existing suppliers Number	FY 2022/23	FY 2021/22	FY 2020/21
Evaluations (individual processes)	681	–	554
Suppliers evaluated	621	–	464
Suppliers audited	152	n/a	n/a

Evaluations of existing suppliers in %	FY 2022/23	FY 2021/22	FY 2020/21
Sustainability ratio	84.3	–	86.0
Supplier evaluation ratio (percentage of invoice volume by evaluated suppliers)	21.7	–	18.0

Invoice volume in million €	FY 2022/23	FY 2021/22	FY 2020/21
Invoice volume with suppliers with a current, approved supplier evaluation	464	–	329

Our established supplier evaluation methodology was transferred to the new PurONE purchasing system in October 2022. As part of the PurONE roll-out, more than 150 Purchasing employees worldwide were trained in supplier evaluation in the 2022/23 reporting year. Evaluations are conducted retrospectively after the fiscal year has closed. To demonstrate the full scope, this report contains evaluations for the 2021/22 fiscal year.

Supplier compliance

Supplier compliance Number	FY 2022/23	FY 2021/22	FY 2020/21
Blocked suppliers	–	–	–

Only includes blocks due to violations of compliance and/or sustainability guidelines; excludes blocks due to insolvency or technical quality issues.

About this report

Since 2011, our Sustainability Report has informed our stakeholders annually about our sustainability performance at Voith. This report describes the progress we made in the 2022/23 fiscal year, in other words from October 1, 2022 to September 30, 2023. In it we focus on key areas of action for our company and our stakeholders. The report is published on our website together with an explanatory fact base. In addition, for many years now we also outline our sustainability activities in our Annual Report.

In compiling this report, Voith follows the internationally recognized guidelines of the Global Reporting Initiative (GRI). This report is based on the GRI Standards and the editorial submissions deadline for the report is March 28, 2024. The content has not been externally reviewed. In 2018 we conducted a comprehensive stakeholder survey to identify key sustainability topics and enhance our materiality analysis; this report continues to include those results. The report also contains a voluntary non-financial statement (NFS). The contents of the NFS are presented in the Sustainability Report; the NFS index details on which pages these contents can be found.

Unless otherwise stated, all information provided in this report applies to the Group Divisions Voith Hydro, Voith Paper, and Voith Turbo worldwide. Please refer to the Annual Report for details of which Group companies are included. The degree of consolidation comprises at least 80 % of the Voith Group by revenue, headcount, and consumption, and includes all major locations of the Group. While we provide employee key figures in this report in terms of headcount, in our Annual Report we give this figure mainly in FTEs, which may result in discrepancies between the figures.

The data on which the key figures contained in the report are based were mainly gathered using Group Division-specific software. Figures have been commercially rounded to support clarity, which may result in discrepancies between the individual amounts given in the tables and Group-wide totals. In individual cases it is not yet possible to derive a three-year trend, however this is our aim in future. In a few cases, certain key figures have been adjusted due to a change in the underlying data basis or calculation methodology. This is indicated at the appropriate places in the report. All predictive statements in this report are based on reasonable assumptions that were valid at the editorial deadline. Due to unknown risks, uncertainties, and other contributing factors, the actual results, developments, or performance of the company may deviate from these forecasts, estimates, and statements (see Annual Report).

Voith records its GHG emissions according to the guidelines set out in the Greenhouse Gas (GHG) Protocol. Emissions of greenhouse gases such as CH_4, N_2O, HFC, PFC and SF_6 are recorded as CO_2 equivalents using conversion factors and are reported accordingly as CO_2e.

Voith is committed to Diversity and Inclusion and seeks to achieve this through, among other things, gender-inclusive language in this report.

Annual Report 2023

Further information can be found online at www.voith.com and in our Annual Report. The provisional publishing date of our next Sustainability Report is spring 2025.

List of abbreviations

3TG	Tantalum, tungsten, tin (and their ores), and gold

A

AktG	German Stock Corporation Act (Aktiengesetz)
APAC	Asia-Pacific
API	American Petroleum Institute
AR	Annual Report

B

BAFA	German Federal Office of Economics and Export Control (Bundesamt für Wirtschaft und Ausfuhrkontrolle)
BattG	German Battery Act
BOD	Biochemical Oxygen Demand

C

CE	CE marking (Conformité Européenne)
CEPI	Confederation of European Paper Industries
CFC	Chlorofluorocarbon
CH_4	Methane
CIGRE	International Council on Large Electric Systems (Conseil International des Grands Réseaux Électriques)
CMR	Carcinogenic, Mutagenic, Reprotoxic
CMRT	Conflict Minerals Reporting Template
CMS	Compliance Management System
CO_2	Carbon dioxide
CoC	Code of Conduct
COD	Chemical Oxygen Demand
CPI	Corruption Perceptions Index
CSP	Corporate Strategic Purchasing
CSR-RUG	CSR Directive Implementation Act
CSR	Corporate Social Responsibility

D

D&I	Diversity and Inclusion
DCGK	German Corporate Governance Code
DED	Directed Energy Deposition
DEFRA	UK Department for Environment, Food and Rural Affairs
DHBW	Baden-Württemberg Cooperative State University
DIN	German Institute for Standardization
DRBFM	Design Review Based on Failure Mode

E

EBIT	Earnings before Interest and Taxes
EBM	Ecological Business Management
EBT	Earnings before Taxes
ECM	Entity in Charge of Maintenance
EDV	Electronic data processing
EMEA	Europe, Middle East, Africa
EPR	Energy Payback Ratio
eRfQ	Electronic Request for Quotation
ERG	Employee Resource Group
EROI	Energy Return on Investment
ERP	Enterprise Resource Planning
ESG	Environmental Social Governance
EU	European Union
eVAP	Electronic Voith Awareness Program

F

FKM	Computational Strength Assessment Guideline (Festigkeitsnachweis von Maschinenbauteilen)
FMEA	Failure Mode and Effects Analysis
FOREST	Framework for Resource, Energy, Sustainability Treatment in Paper Production
FRS	Fabric & Roll Systems
FTE	Full-time equivalent
FVA	Research Association for Power Transmission Technology (Forschungsvereinigung Antriebstechnik)
FY	Fiscal year

G

GBS	Global Business Services
GDPR	General Data Protection Regulation
GHG	Greenhouse Gas
GHGP	Greenhouse Gas Protocol
GIZ	German Agency for International Cooperation (Deutsche Gesellschaft für Internationale Zusammenarbeit)
GPC	General Purchasing Conditions
GRI	Global Reporting Initiative

H

HFC	Hydrofluorocarbon
HR	Human Resources
HSB	Heidenheimer Sportbund 1846
HSE	Health, Safety, Environment

I

IEA	International Energy Agency
IEC	International Electrotechnical Commission
IFRS	International Financial Reporting Standards
IHA	International Hydropower Association
IIoT	Industrial Internet of Things
ILO	International Labour Organization
IMDS	International Material Data System
IÖW	Institute for Ecological Economy Research
ISO	International Organization for Standardization

K

KPI	Key Performance Indicator

L

LCA	Life Cycle Assessment
LCI	Life Cycle Inventory
LPG	Liquefied Petroleum Gas

M

MDG	Master Data Governance
MGM	Material Group Manager
MitbestG	German Codetermination Act (Mitbestimmungsgesetz)
MVO	Maatschappelijk verantwoord ondernemen

N

N_2O	Nitrous oxide (laughing gas)
NDA	Non-disclosure agreement
NFS	Non-financial statement
NM-VOC	Non-methane Volatile Organic Compounds

O

OECD	Organisation for Economic Cooperation and Development
OHM	Occupational Health Management
OSC	Occupational Safety Committee
OU	Operational Unit

P

PCF	Product Carbon Footprint
PFC	Perfluorocarbon
PV	Photovoltaics

Q

QHSE	Quality, Health, Safety, Environment

R

R&D	Research & Development
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RfQ	Request for Quotation
RMAP	Responsible Minerals Assurance Process
RMI	Responsible Minerals Initiative
ROCE	Return on Capital Employed
RoHS	Restriction of Hazardous Substances

S

SAP	Company for Systems, Applications and Products in Data Processing
SBB	Swiss Federal Railways
SBTi	Science Based Targets initiative
SCA	German Supply Chain Act (Lieferkettensorgfaltspflichtengesetz)
SEC	United States Securities and Exchange Commission
SF_6	Sulfur hexafluoride
SOP	Standard Operating Procedures
STEM	Science, technology, engineering, mathematics
STF	Slips, Trips, Falls
SVHC	Substances of very high concern
SWM	Südwestmetall Verband der Metall- und Elektroindustrie Baden-Württemberg

T

TSI	Technical Specifications for Interoperability
TSS	Total suspended solids

V

VDB	German Railway Industry Association (Verband der Bahnindustrie in Deutschland)
VDMA	German Mechanical Engineering Industry Association (Verband Deutscher Maschinen- und Anlagenbauer)
VEDS	Voith Electrical Drive System
VGI	Voith Health Initiative (Voith Gesundheitsinitiative)
VOC	Volatile organic compounds
VQS	Voith Quality Specifications
VSP	Voith Schneider Propeller
VT	Voith Turbo

W

WRI	World Resources Institute
WWF	World Wide Fund for Nature

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Further information
This report is also available in German.
The German and English versions are available online at:
https://voith.de/nachhaltigkeit
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