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# Sustainability Report 2021

**glaston**  
seeing it through®



# The frontrunner in glass processing

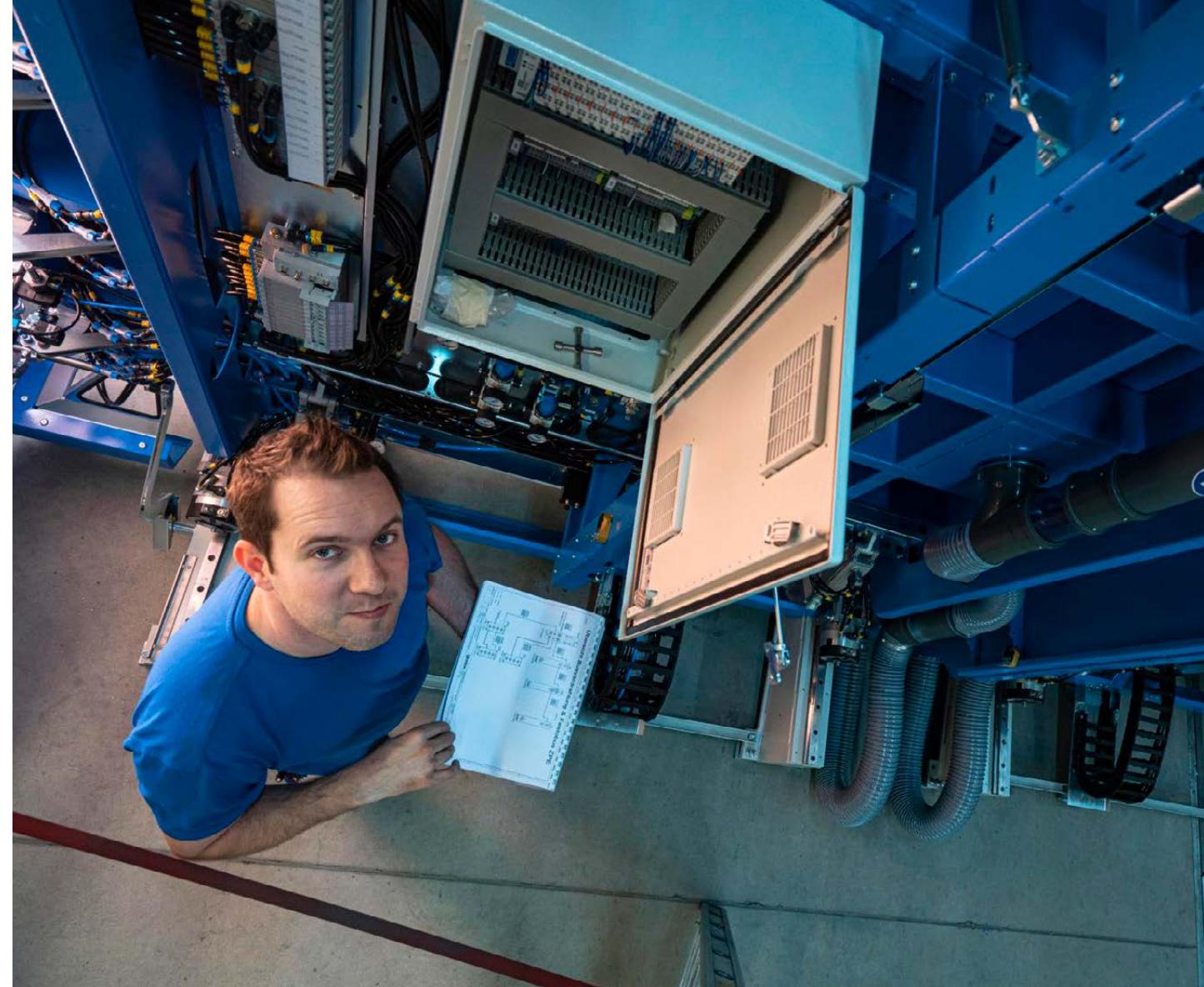
Glaston's purpose is to build a better tomorrow through safer and more energy-efficient glass solutions.

Glaston is the frontrunner in glass processing industry technologies and services. Glass processed using Glaston's machines is supplied to the architectural glass, automotive glass, solar energy and display industries. Most of the glass produced with the company's technology is supplied to the construction industry.

In line with its new vision, Glaston seeks to lead the global glass processing industry forward with innovative technologies and lifecycle solutions.

Greater attention is being paid to the safety of buildings, and for glazing solutions this means increasing use of tempered and laminated glass. Tempering, laminating and insulating glass processes are Glaston's core expertise, and in these the company offers the most advanced technology.

As environmental awareness increases, demand for more energy-efficient and environmentally



sustainable glass solutions is continually growing. Energy-efficient double- or triple-glazed insulating glass units and in these used coated, low-emissivity glass processed with Glaston's technology meet the energy-saving needs of buildings.

The debate on climate change is also strongly reflected in the glass industry. This has led to rapid development in smart glass, thin glass and glass used in solar energy solutions. As our industry's innovative technology leader, Glaston is strongly involved



## Glaston's segments focus on different sectors

### **Glaston Insulating Glass**

segment provides high technology machines for the manufacture of insulating glass, maintenance, upgrade and modernization services, as well as spare parts. The Insulating Glass segment comprises the Insulating Glass Technologies product area and maintenance services for insulating glass machines. Most of the segment's personnel are located in Germany.

### **Glaston Heat Treatment**

segment encompasses a wide and technologically advanced range of heat treatment machines, maintenance, upgrade and modernization services, and spare parts for glass flat tempering, bending, bending tempering and laminating. The Heat Treatment segment comprises the Heat Treatment Technologies product area and maintenance services for heat treatment machines. Most of the segment's personnel are located in Finland.

### **Glaston Automotive & Display**

segment provides glass processing machines and maintenance, upgrade and modernization services as well as spare parts for the automotive and display industries. The Automotive & Display segment comprises the Automotive & Display Technologies product area and related services. Most of the segment's personnel are located in Switzerland.

in this development, and is continually launching more advanced technology to meet the changing needs of the market.

In 2019, the scope of Glaston's operations grew significantly when the company acquired the German-Swiss company Bystronic glass. The acquisition expanded Glaston's offering to insulating glass technologies in the architectural market and to pre-processing in the automotive and display markets.

Glaston has production in Germany, Finland, China and Switzerland. Glaston's factories in Finland, Switzerland and China assemble machines, while

machines are manufactured in Germany. In addition, the company has sales and service points in 10 countries. From these locations, Glaston serves its customers, who operate in over 100 countries. The company is domiciled in Helsinki, Finland.

Glaston's group structure comprises three segments:

- Glaston Insulating Glass
- Glaston Heat Treatment and
- Glaston Automotive & Display

In addition, Glaston offers digital services, such as glass processing machine remote monitoring and fault

analysis services, and consulting and engineering services. Personnel also work in sales of machinery and services and in Group functions.

### **Glaston's ownership structure**

Glaston Corporation's share (GLA1V) is listed on the main list of Nasdaq Helsinki Ltd. At the end of 2021, Glaston had 7,427 shareholders. At the end of the year, the company's largest shareholders were Ahlstrom Capital B.V. (26.39%), Hymy Lahtinen Oy (12.22%), Varma Mutual Pension Insurance Company (7.50%), Ilmarinen Mutual Pension Insurance Company (7.31%) and OP-Finland Small Firms Mutual Fund (6.04%).

### **New strategy shows direction**

Glaston's new strategy for 2021–2025 was announced in August 2021, with the objective of clearly improved organic growth and profitability. The successful implementation of the strategy is supported by Group-wide cornerstone initiatives.

In Glaston's updated strategy, sustainability is one of the priorities, and a strategic cornerstone initiative has been established to develop it. The majority of the company's business is targeted at the architectural segment, in which Glaston's products provide key technologies to improve the energy efficiency and safety of buildings.

## Glaston's cornerstone initiatives

Implementation of the strategy will be supported by Group-wide cornerstone initiatives.

1. Innovate with customers to win: strengthening Glaston's technology leadership by seamless integration of customer understanding with faster innovation and development work.
2. Leading digital change: building the tools and infrastructure across all Glaston operations to lead the industry's digital transformation.
3. Empowering Glastonians to thrive: is essential to building the desired corporate culture. Leadership development and the leveraging of common leadership principles will play a key role in implementing the strategy and embedding it into everyday working life.
4. Elevate sustainability and continuous improvement: will enable long-term success by building a stronger culture of continuous improvement and systematically progressing the sustainability agenda.
5. Master global sourcing and manufacturing: will enable operational efficiency and growth through more harmonized sourcing and manufacturing processes.

In connection with the strategy work, new non-financial strategic targets promoting sustainability were set:

- Customer satisfaction score (Net Promoter Score, NPS) over 40
- Group-wide safety target of zero lost time accidents (LTA, progress measured as accident frequency, LTIFR)
- Employee engagement rate above 75 (out of 100)
- Glaston's CO<sub>2</sub> emissions (Scope 1+2) in relation to net sales down by 50% from the 2020 level.

## Sustainability as the cornerstone of the strategy

In 2021, through Glaston's updated strategy, our sustainability work took a big leap forward as part of our strategy and systematic management.

We have, of course, been working for years to promote sustainable development. The strategy process and its various analyzes helped us to see more clearly how we can contribute to climate change mitigation, the energy efficiency of buildings and the development of safety directly through our business operations, while at the same time creating new opportunities.

In our updated strategy, *Elevate sustainability and continuous improvement* is an area of focus, and a strategic cornerstone initiative has been established to develop it. We also set the first Glaston-wide non-financial targets for 2025, and established a Sustainability Working Group for more detailed planning and implementation of the goals of the strategic cornerstone initiative.

I am delighted with our new working group, which comprises experts from the different parts of our organization. The sustainability themes to be managed and developed are broad, our expertise covers different fields – and



we are constantly learning more together. Through clear responsibilities and an updated materiality assessment, we will also become more structured and systematic in what we do. During 2022, as the work progresses, we will prepare plans for the coming years that will take sustainability forward.

There is still a lot of work to be done, and we will continue to work confidently with Glaston employees and our stakeholders during 2022!

**Päivi Lindqvist,**  
CFO & sponsor of the cornerstone initiative Elevate sustainability and continuous improvement

## Impact of coronavirus on Glaston

The COVID-19 pandemic has continued to impact Glaston. Due to preventive measures introduced at an early stage, such as a recommendation to work remotely and strict safety guidelines, Glaston has been able to maintain its production operations, and there were few cases of coronavirus infection among personnel.

The importance of a safe and healthy life and working environment has grown in recent years, and for Glaston safety is also a strong priority internally. During the pandemic, many Glaston employees have worked remotely in order to protect their own health and that of production personnel.

Different countries' changing travel restrictions and restrictions on customers' factory visits have continued to adversely affect maintenance and service operations. Installation work has been adapted to current conditions, however, with new installation methods, such as precise travel planning and digital support tools. In Germany, Glaston trained first-aid medical staff to carry out rapid COVID tests. All of the company's production facilities were fully operational and Glaston's business developed positively during 2021.

## Continuous dialogue and development work

Glaston's goal is to be a reliable and responsible partner for its stakeholders.

The most significant stakeholders are current and potential customers and employees, shareholders and investors, suppliers and subcontractors, the media, public authorities and local communities as well as research institutes and higher education institutions. Glaston engages in continuous dialogue with its stakeholders on topics of current interest and to fulfill stakeholders' expectations.

One of Glaston's strategic cornerstone initiatives is *Innovate with customers to win*, which focuses on strengthening the company's technology leadership by seamless integration of customer understanding with faster innovation and development work.

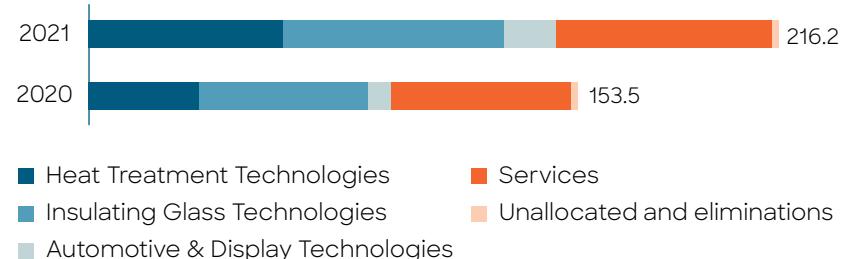
To remain at the forefront of the development of glass processing products and services, Glaston invests significantly in the continuous development of its core business technology portfolio and its research and development activities.

## Scope of the report

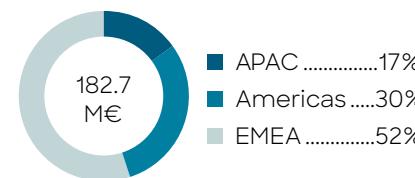
This sustainability report describes Glaston Group's operations in 2021. The content of the report and the themes covered are based on Glaston's updated strategy as well as a materiality assessment updated in autumn 2021. The report covers the entire Group.

# Key figures 2021

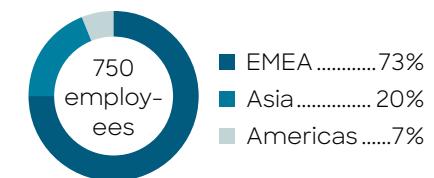
## Orders received per product area, M€



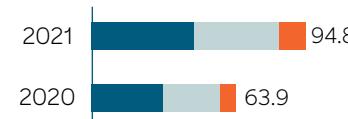
## Net sales per region



## Personnel per region at end of year, %



## Order book, EUR million



## Comparable EBITA, EUR million



# Megatrends supporting Glaston's business

Glaston's business and product development are particularly affected by the megatrends of urbanization and growing environmental awareness. With the growing use of glass, expectations for its energy efficiency, safety and versatility have increased.

## Urbanization and megacities

Urbanization is one of the world's most powerful forces of change. The UN has estimated that by 2050 nearly 70% of the world's population will live in cities and, particularly in developing countries, megacities of over 10 million inhabitants will arise. Through urbanization, the need for new construction will grow, and the existing building stock, too, will be developed, which will increase demand for glass. Glaston contributes to the construction of a more energy-efficient society by offering its customers a wide range of products and services that enable them to manufacture more energy-efficient windows and insulating glass units.

## Climate change and resource efficiency

The use of glass in buildings has increased significantly; well-designed use of glass can reduce the energy consumption of buildings, improve their sound insulation and at the same time increase interior brightness. People's preferences are also increasing the use of glass as a building material. This development will drive growing demand for energy-saving glass, smart insulating glass units and solar energy solutions.

As environmental awareness increases and construction laws and regulations become stricter, the energy-saving requirements for buildings will tighten. Insulating and energy-efficient glass will be increasingly used to achieve these goals. Utilization of solar energy in buildings is also on the increase, resulting in growing demand for the glass needed in solar cells.

## Safety

Greater attention is being paid to the safety of buildings. Due to tightening safety regulations, more and more safety glass is being used, which has meant a growing demand for tem-

pered and laminated glass, which help protect people from injury as they are significantly stronger than regular glass and do not pose a risk in the event of breakage.

## Social responsibility

For a company to succeed in attracting skilled and motivated employees, it must also assume its social responsibility and set itself ambitious goals for sustainable development. Diversity and equality are important themes in the societal debate and in ensuring the well-being of employees. In its own operations, Glaston is committed to providing a safe and good workplace for its personnel.

Transparency of operations and traceability of supply chains are also increasingly important not only in terms of risk management, but also in the assessments of financiers and investors.



# Glaston's sustainability and its management

Glaston is committed to providing a safe and good workplace for its employees, being a responsible partner to its customers, utilizing resources efficiently, and reducing the environmental impact of its production processes. Glaston's most significant environmental impacts arise via the use of its products, and the company's product range meets the growing demand for more energy-efficient and environmentally sustainable glass solutions.

At the end of 2021, Glaston updated its material topics of sustainability to reflect the new strategy and changes in the operating environment. The assessment also took into account the views of external stakeholders and the company's own personnel.

## Responsible own activities



### Human resources

- Health & safety and risk prevention
- Competencies and skills, development and trainings
- Diversity & Inclusion
  - Equality, anti-discrimination, anti-harassment
- Good leadership



### Environment

- Climate impact oversight and scenarios
- Risks and possibilities relating to tightening emissions regulation



### Responsible business

- Financial responsibility ensuring competitiveness and profitability
- Anti-corruption and fair competition practices
- Responsible sales

## Responsible partner



### Customer

- User experience and customer satisfaction



### Products & Services

- Machine quality, reliability and longevity, life-cycle management
  - Machine safety and advising customers in operating the machines
  - Digitalization and Automation
  - Data safety and security
  - Energy and material efficiency targeting circular economy
- End product quality, safety and recyclability

## Responsible sourcing



### Suppliers

- Supplier requirements, assessments and audit
- Human rights and workplace safety within the supply chain
- Anti-corruption in supply chain and sourcing
- Environmental matters in the supply chain

## Responsible member of society



### Sustainable tomorrow

- Indirect impacts on energy efficient cities and societies
  - Indirect energy and emissions reductions
  - Indirect material reductions
- Sustainable end-product applications
- Development of the industry, research co-operation
- Contributing to the decarbonization of societies



The update revised the content of previously identified material topics. Glaston's material topics are:

- responsible own activities (personnel, environment, responsible business)
- responsible sourcing
- responsible partner and
- responsible member of society.

In connection with the materiality review, the most significant climate and biodiversity risks related to and arising from Glaston's operations were also identified. Climate risks were mainly assessed as being medium or low. Glaston's climate risk management is reported in more detail in the financial statements, in connection with the Report of the Board of Directors.

### **Sustainability Working Group coordinates work**

One of the focus areas of Glaston's new strategy is sustainability. The company has established a management structure and clear responsibilities for implementing Glaston's sustainability practices. Glaston's day-to-day choices are guided by the Code of Conduct.

In order to systematically develop the sustainability agenda, Glaston established in autumn 2021 a Sustainability Working Group, which includes experts from various functions. The working group's mandate is to coordinate sustainability development in Glaston, to create uniform processes and tools for sustainability work throughout the company, and to be responsible for the monitoring and reporting of

the work. The working group will also develop sustainability further to capture business opportunities and to meet growing regulatory requirements and stakeholder expectations. The group reports to the Executive Management Group and the Board of Directors.

### **Sustainability targets**

In connection with strategy work, new Group-wide non-financial strategic targets promoting sustainability were set for 2025:

- Safety target measured of zero lost time accidents (LTA, measured as accident frequency, LTIFR)
- Employee engagement rate over 75 (out of 100)

- Glaston's CO<sub>2</sub> emissions (Scope 1+2) in relation to net sales down by 50% from the 2020 level
- Customer satisfaction score (Net Promoter Score, NPS) over 40

In addition to these key targets, Glaston's other sustainability targets were promoted and revised during 2021. New, revised targets were set for, among other things, the calculation of value-chain greenhouse gases and suppliers' commitment to Glaston's Code of Conduct.

## Key sustainability objectives

Topic	Indicator	Target	Outcome	Timetable
<b>Responsible business</b>	Training of personnel in the Code of Conduct	Training coverage 100%	Training began in 2021; coverage was 97% at the end of the year.  Training will become part of the induction of new employees.	Continuous
<b>Safe workplace</b>	Accident frequency (LTIFR), number of accidents per million hours worked	Accident frequency zero	LTIFR in 2021 = 3.3	2025
	Reports of workplace harassment	No reports	In 2021, no cases of workplace harassment were reported.	Continuous
	Employee engagement rate	Employee engagement rate over 75 (out of 100)	Baseline will be measured during 2022	2025
<b>Impacts on the environment</b>	CO <sub>2</sub> emissions in own operations	CO <sub>2</sub> emissions (Scope 1+2) in relation to net sales down by 50% from the 2020 level (16.3 tCO <sub>2</sub> /€ million).	Outcome (14.3 tCO <sub>2</sub> /€ million) -13% compared with 2020 level	2025
	Emissions in value chain	Scope 3 emissions to be calculated during 2022	-	2022
	Energy and material efficiency	Target to be specified during 2022	-	2022
<b>Responsible sourcing</b>	Commitment of suppliers to Glaston's Code of Conduct (new and current suppliers)	Commitment coverage 100%	Commitment to be included in contracts during 2022	2025
<b>Responsible partner</b>	Industry's best customer experience	Customer satisfaction score (NPS) more than 40	NPS measurement throughout Glaston during 2022	2025

### Code of Conduct guides daily choices

Glaston's Code of Conduct provides all Glaston personnel with guidelines on acting ethically and responsibly in the workplace, in interaction with various partners, customers and suppliers and as a responsible actor in society. The Code of Conduct includes,

among other things, a commitment to respect human rights, and strictly prohibits any form of harassment.

In its everyday activities, Glaston is committed to combating bribery and corruption. Glaston has its own operating locations in ten countries, and from these we serve our customers

in over 100 countries. The company's own operations are complemented by a global agent network. Glaston recognizes that there is a risk of corruption and fraud in some of the company's operating regions and countries.

Glaston's separate Anti-bribery and anti-corruption policy clearly sets out

our practices and raises our employees' awareness of the risk of corrupt payments, unequivocally prohibits the payment and receipt of bribes, and ensures that the company conducts business honestly in accordance with ethical standards and in compliance with anti-corruption laws, rules and regulations.

Training in the Code of Conduct is arranged for all personnel. The objective of the training is not only to familiarize Glaston's personnel with the updated guidelines, but also to support and strengthen Glaston's common ethical approach and to identify and address any problem areas. Training is also provided in the content of the anti-bribery and anti-corruption policy to those whose working tasks are closely related to the issue.

Training in ethical principles is an integral part of the induction of new employees, and the goal is that all Glaston personnel will attend such training every two years. The Code of Conduct is published in Finnish, English, German, Chinese and Russian so that as many employees as possible can read it in their own language.

Glaston also published a separate code of conduct for its suppliers (Glaston Supplier Code of Conduct),

to which it requires suppliers to commit. The Glaston Supplier Code of Conduct is published in Finnish, English, German and Chinese.

The Code of Conduct is complemented by other Group-level policies approved by the Board of Directors, such as the anti-bribery and anti-corruption policy, and the disclosure, information security and risk management policies. Safety at work is also one of the non-financial targets of Glaston's strategy.

Glaston continually develops the quality, reliability and energy-efficiency of its products. At Glaston's assembly and production units, the company operates in accordance with the ISO 9001 quality management system. In Finland, Glaston manages environmental issues in accordance with the ISO 14001 environmental management system.



# UN Sustainable Development Goals

Glaston supports the United Nations Sustainable Development Goals (SDGs), which will guide the sustainable development actions of member states, companies and other organizations up to 2030. We have identified seven goals that also emerge from our own strategy and are most material to us. These provide a broader frame of reference for our work and support the achievement of these goals in our own activities.

Glaston's responsibility theme	UN Sustainable Development Goals	Implementation in Glaston
<b>Responsible operations</b>	 <b>Goal 3:</b> Ensure healthy lives and promote well-being for all at all ages   <b>Goal 4:</b> Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	<ul style="list-style-type: none"> <li>occupational health care in all operating countries according to local needs and requirements</li> <li>minimizing health risks: e.g. in Finland, enhanced health checks for over 50-year-olds, hobby sessions and exercise benefits, strict safety rules and remote-work recommendations in order to prevent spread of coronavirus</li> <li>eSkills online learning system for all personnel</li> <li>summer work, diploma work and trainee positions for young people</li> <li>Ahlström Collective Impact cooperation with UNICEF Finland</li> </ul>
<b>Responsible member of society</b>	 <b>Goal 7:</b> Ensure access to affordable, reliable, sustainable and modern energy for all   <b>Goal 11:</b> Make cities and human settlements inclusive, safe, resilient and sustainable	<ul style="list-style-type: none"> <li>reducing the harmful environmental impact of cities with new glass technologies</li> <li>providing engineering and consulting services for the production of energy glass windows as well as for solar energy applications</li> <li>enabling the introduction of resource-efficient, clean and environmental friendly production processes</li> <li>increasing urban safety through the use of safety glass</li> <li>participating in the development of society by paying taxes, wages and dividends</li> </ul>
<b>Responsible partner</b>	 <b>Goal 9:</b> Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation   <b>Goal 12:</b> Ensure sustainable consumption and production patterns   <b>Goal 17:</b> Revitalize the Global Partnership for Sustainable Development	<ul style="list-style-type: none"> <li>efficient use of energy and materials and minimizing material and other waste</li> <li>ISO 9001 quality management system and ISO 14001 environmental management system</li> <li>glass processing machine energy-efficiency at heart of product development, long life cycle, high utilization rate and real-time quality control iLook</li> <li>proactive and regular maintenance by utilizing cloud services and opportunities offered by IoT</li> <li>Ahlström Collective Impact cooperation with UNICEF Finland</li> </ul>

## NET IMPACT CALCULATED

# Largest impacts under examination

In order to better understand the effects caused and induced by Glaston's business on the environment, people and society, we studied the company's net impacts in 2020–2021 in collaboration with the Finnish Upright Project.

Net impacts are a matter of measuring the most significant positive and negative effects of a company's core business and linking them together: what resources the company uses and what it achieves with them. The essential aspect of the study is the net sum of impacts, i.e. how much value the company creates relative to the costs and drawbacks it causes.

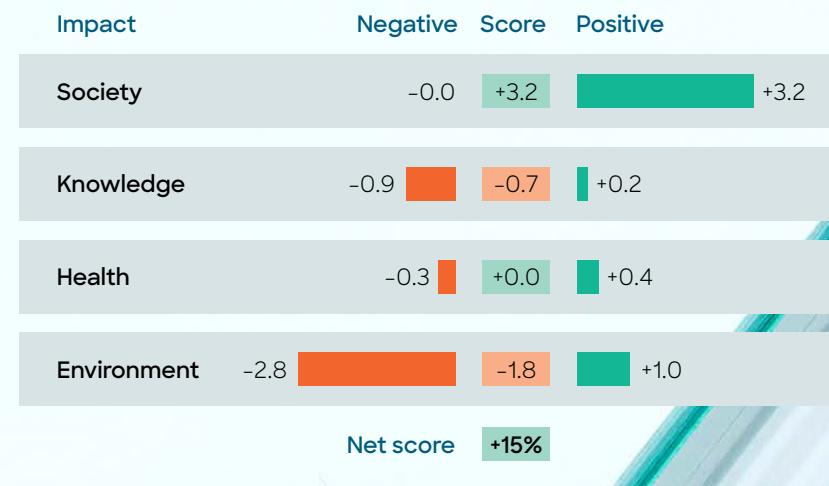
The model developed by the Upright Project is based on artificial intelligence modeling that utilizes machine learning, in which information from millions of scientific articles is combined into a commensurate calculation of the company's operations, products and services.

The results show that Glaston's main impact is its positive social impact through jobs and the payment

of taxes. In addition, the company's excellence in glass processing technologies also facilitates socially beneficial product development.

Achieving these positive results gives rise, however, to greenhouse gas emissions and glass waste throughout the glass processing value chain. In the study, Glaston's carbon footprint was estimated to be 34,400 tonnes of CO<sub>2</sub>e, of which the company's own operations account for approximately 8%.

On the other hand, Glaston exceptionally also has a positive impact on reducing greenhouse gas emissions through the insulating glass manufactured by its customers using Glaston's technology. Tempered and laminated glass produced with Glaston's technology is also safe for users, as it does not cause injury in the event of breakage.



# Responsible own activities



## Human resources

- Health & safety and risk prevention
- Competencies and skills, development and trainings
- Diversity & Inclusion
  - Equality, anti-discrimination, anti-harassment
- Good leadership



## Environment

- Climate impact oversight and scenarios
- Risks and possibilities relating to tightening emissions regulation



## Responsible business

- Financial responsibility ensuring competitiveness and profitability
- Anti-corruption and fair competition practices
- Responsible sales



# We empower our employees to thrive

Professional, committed and healthy personnel are the foundation of Glaston's success. Glaston attends to the continuous development of the skills of its personnel by providing its employees with an inspiring work environment that facilitates utilization of existing skills and the further deepening of expertise. We respect and promote the equality and diversity of personnel.

## Glaston's personnel

In 2021, the number of Glaston personnel rose by 4%, and there were 750 (723) Glaston employees at the end of the year.

As a result of orders received, the previously agreed temporary layoffs in Finland were canceled at the beginning of February 2021. Short-time work introduced in Switzerland in autumn 2019 ended at the beginning of February. However, Swiss production personnel temporarily returned to reduced

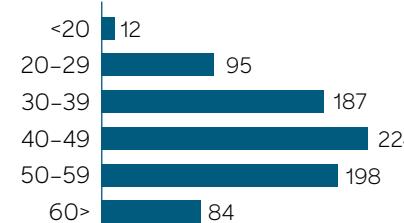
working hours in May and June due to a lower workload. Operations in Glaston's Brazilian subsidiary were discontinued in early 2021. The Brazilian operations had employed nine people.

At the end of 2021, Glaston had operations in 10 countries, of which the three largest, by employee numbers, were Germany, Finland and China. In Glaston, employee turnover in 2021 was 8.5% in Germany, in Finland 17.2% and in Switzerland 7%. Most employment relationships are permanent. The average age of personnel is 44.7 years.

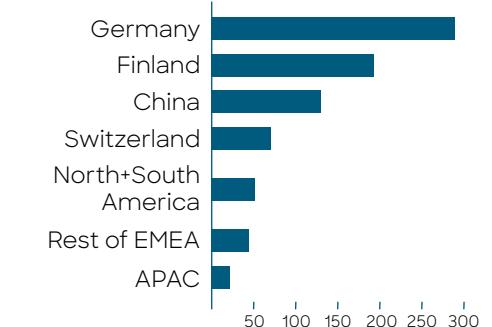
Of Glaston's personnel, 83% are men and 17% are women. At the end of 2021, there were five men and two women on Glaston's Board of Directors, and three of the nine members of the company's Executive Management Group were women.

Target: Employee Engagement  
**>75**

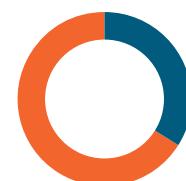
## Employee age distribution



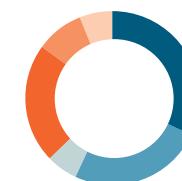
## Employees by country or region (FTE)



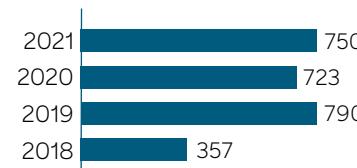
## Employees by type of employment



## Personnel per function



## Employees at end of year



## **Good leadership and employee engagement**

*Empowering Glaston people to thrive* is one of the cornerstone initiatives of our new strategy. An important role in achieving these goals is played by developing leadership as well as common leadership principles and work culture, mapping the competencies and talents of Glaston personnel, supporting various work paths within Glaston, and flexibly coordinating work and leisure.

With the major acquisition of Bystronic glass, Glaston's employee numbers more than doubled in 2019. Work to find a common operating approach and merge operating locations began immediately at that time, and the expected synergies were achieved and even exceeded in many places.

Work to develop a common operating approach and organizational culture continued in 2021 in the second phase of integration, focusing on realizing the full potential and a common growth strategy. Working as a united team and organization with clear goals and priorities will increasingly benefit the company and its customers.

Leadership development and the leveraging of common leadership principles will play a key role in imple-

menting the strategy and embedding it into everyday working life. In 2021, we launched the supporting pillars of Glaston's leadership, which articulate our vision for high-quality, empowering leadership. At the end of the year, we organized coaching for all our supervisors in which we harnessed partner sparring methods to deepen our knowledge of the supporting pillars of leadership and share our experiences of leadership.

Engaged employees play an important role in achieving strategic goals. One of the Group's non-financial targets is to raise the employee engagement rate to more than 75, on a scale of 1-100, by 2025. The current state of employee engagement will be measured with the aid of an employer image survey, which will be launched in early 2022.

Employees' satisfaction with their work at Glaston was surveyed at the end of 2021 with a revised One Glaston Survey. The survey covered, among other things, Glaston as an employer, the company's strategy and goals, and employees' own work. The results showed that staff satisfaction is at a good level and they are happy to recommend the company as a workplace. Internal communication and cooperation between organizations were identified as areas for development.

## **Equal treatment and prohibition of harassment**

All Glaston employees are treated fairly and equally, and discrimination is strictly prohibited. The diversity and equality of personnel are important for Glaston's success, and we are continuously developing our approaches and processes to better address potential unconscious biases in respect of them.

The above-mentioned Glaston Code of Conduct prohibits any form of harassment. All cases reported are investigated and, if deemed appropriate, the necessary action is taken. The parties concerned are informed of the outcome of the process. In 2021, no cases of workplace harassment were reported.

## **Continuous skills development**

Expert personnel are the foundation of Glaston's success. Glaston attends to the continuous development of the skills of its personnel by providing its employees with an inspiring work environment that facilitates utilization of existing skills and the further deepening of expertise.

In Glaston, personnel training is mainly organized according to local needs. In addition to supervisor leadership development, the focus

of the training has been product and process training for sales and service personnel, as well as technical training for those engaged in engineering and assembly work. Furthermore, product and safety training is provided to sales, service and production personnel.

Thanks to Glaston's internal eSkills online learning platform, training is flexibly available online, offering personnel the opportunity to develop their skills independently. The eSkills platform provides training related to products, processes and operating practices. Training on ethical practices is also provided through the platform.

Each year, performance appraisals are conducted within Glaston and all employees are covered by the appraisal process. In the performance appraisals, targets are jointly agreed for the coming year and an evaluation is made of performance during the previous year and of the achievement of targets set for the previous year. Particular attention is paid to the planning of each person's own skills development.

## **Rewarding good work**

As a rule, all of Glaston's personnel are covered by an annual bonus scheme, and bonuses are determined on the basis of Glaston's financial perfor-

# Glaston's remuneration report wins award

In 2021, the European Union's Shareholder Rights Directive required, for the first time, that listed companies publish a remuneration report for governing bodies under the new regulations and submit the report to the annual general meeting for approval.

In March 2021, Glaston published its first remuneration report, which presents information on the remuneration of the Board of Directors, the President & CEO and the Deputy CEO for the financial year 2020 and a description of the development of remuneration. Finland's best remuneration reports of listed companies were selected in October 2021. The award for the Small Cap Series was won by Glaston, whose remuneration report was described as being clear, comprehensible and sufficiently concise. The report received a special mention for its effective introduction, which created a good overall picture of remuneration.

mance. In addition, the reward scheme includes the Glaston Way awards, which are based on good work performance supporting the achievement of strategic goals in line with the company's values.

## Safeguarding employee safety and well-being

Glaston attends to the health, working capacity and safety of its personnel in many ways, and actively monitors occupational safety.

Occupational safety is high on our agenda and we have set a Group-wide occupational safety target of zero lost time accidents. In order to develop and manage safety, Glaston established a steering group consisting of representatives from different functions and countries. At its regular meetings, the steering group monitors the development of indicators measuring occupational safety and prepares plans for the further development of a safe working culture. An important measure in developing a safety culture is to promote and harmonize the reporting of accidents and near misses, as well as safety standards and general safety awareness throughout the Group.

The day-to-day management and development of occupational safety



Target: Lost Time Accidents

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is the responsibility of the company's various units, and occupational safety issues are discussed in local occupational safety committees. On average, occupational safety reviews are conducted every three months and, based on them, development measures are agreed upon. Occupational safety training is regularly arranged in all of Glaston's assembly and production units.

Our target is zero accidents at work. We did not yet achieve this target; in 2021, there was a total of 5 lost time accidents at work or on a business trip leading to lost time, and the accident frequency was 3.3. Positive development was significant compared to the previous year, however, when the accident frequency was 10.8. The most typical accidents are hand injuries, such as cuts and various sprains.

We support the well-being of our employees and encourage them to exercise. In Finland, Glaston offers joint activity opportunities and exercise benefits. In Germany and in Finland, personnel have the option of using a company bicycle. With the shift to teleworking, we sought to ensure our employees' coping in work and physical condition.

Due to preventive measures introduced at an early stage of the coronavirus pandemic, such as a recommendation to work remotely and strict safety guidelines, Glaston has been able to maintain all of its production operations, and there have been few cases of coronavirus infection among personnel. Operational and safety instructions for personnel were revised according to the prevailing situation and recommendations.

# Energy efficiency as an opportunity

Glaston views the promotion of sustainable development as a business opportunity and, as the frontrunner in its field, the company is involved in creating industry standards and practices in relation to sustainability, such as for energy efficiency and safety.

In glass industry sustainability issues, there is an emphasis on the energy efficiency of glass manufacturing and further processing. Glass production processes are energy-intensive and the industry's key goal is to further reduce its energy consumption as one means of reducing the industry's carbon dioxide emissions.

In this, the energy efficiency of buildings plays a key role in transitioning to a clean and carbon-neutral economy. For example, 75% of the EU's building stock is energy inefficient\*), and heating and cooling of buildings account for half of final energy consumption in the EU. Therefore, improving the insulation of buildings is of great importance.

Glaston's largest customer segment is the architectural and construction industry. New standards, measures promoting carbon neutrality in Europe, and stricter legislation are supporting the use and development of more environmentally aware and energy-efficient solutions. At the same time, development of local control of construction with regard to safety and quality regulations is evident in many of Glaston's market areas.

Glass will play a key role in achieving the energy efficiency targets for buildings in both new and renovation construction. The technologies developed by Glaston enable the production of more energy-efficient glass structures.

Glaston continuously strives to reduce the environmental impacts arising from its activities, use of machines on customers' premises, and its end products.

## Energy-efficient technology

The most significant environmental impacts of Glaston's operations are mainly associated with the use of the machines sold. Particularly in heat treatment machines, electricity con-

sumption is linked to the customer's production. Automation and various options are used to optimize the energy consumption of the machines to better match the customer's production, while achieving significant improvements in the energy consumption of processes.

Glaston's product development has long focused on improving the energy efficiency of its machines, and the company has managed to reduce significantly the energy consumption of its products. For example, in the tempering process of coated energy-saving glass, energy consumption has been reduced by around 30% over the last decade.

Electricity consumption in the equipment used in the manufacturing of glass pre-processing machines and insulating glass units is low and, as a result of product development, consumption has been reduced even further.

A more specific target for energy and material efficiency will be set during 2022. As part of setting the target, the most significant opportunities for reducing energy consumption and emissions will be identified and an



## Energy efficiency of buildings in Europe

The goal of the Renovation Wave Strategy, published by the European Commission in 2020, is to at least double the number of renovations over the next decade and to ensure that they lead to better energy and resource efficiency. The goal applies to around 35 million buildings. The project will be a significant driver of growth for Glaston's business, as coated double and triple insulating energy-saving glass produced with Glaston's technologies are key solutions in energy saving for windows and glass façades.

The glass processing industry has actively developed types of glass that can be used effectively to reduce the need for heating and cooling and thereby change the energy consumption of buildings.

\*) Source: Directive of the European Parliament and of the Council on energy efficiency, 2021.

implementation plan prepared.

In product development, Glaston utilizes new technology and the opportunities created by digitalization through, among other things, utilizing data received from machines. With the aid of cloud services and the industrial internet, the company helps its customers to use their machines as efficiently as possible. A real-time quality measurement system detects deviations in the quality of processed glass immediately, thereby minimizing material waste.

#### Positive climate impacts

The architectural and construction industry is Glaston's largest customer segment. The positive climate impact of the glass installed in buildings is therefore highly important for Glaston.

Loss through windows accounts for 25–30% of the energy used for heating and cooling buildings. The energy-saving potential is enormous, because in the EU area, for example, most of the glazing of buildings is less energy-efficient.

If, for example, the glazing of buildings in Europe were replaced by energy-efficient alternatives,

the energy consumption and carbon dioxide emissions of buildings would be approximately 30% lower by 2030\*.

Solar energy is also growing in popularity, and the glass used in solar cells and panels is subject to exacting quality requirements, for example with respect to glass thickness and curved surfaces. Glaston provides engineering and consulting services for the production of energy glass windows as well as for solar energy applications.

#### Glaston's impacts on the environment

In its own activities, Glaston's most significant environmental impacts arise from energy consumption and related emissions, waste and transportation. In the use of machines, the main environmental aspect is the energy consumption of the machines.

At Glaston's assembly and production units, the company operates in accordance with the ISO 9001 quality management system. In Finland, Glaston manages and controls environmental issues linked to production in accordance with the certified ISO 14001 environmental management system.

On its premises, Glaston conducts regular energy audits, and is constantly improving the energy-efficiency of its properties. For example, oil consumption and resultant emissions were significantly reduced when heat pumps were installed, replacing oil as a heating source.

The commissioning of photovoltaic systems is being evaluated at all of the

Group's factories, and in Neuhausen, Germany electric cars will begin to be offered as company cars, and electric car charging points installed.

Transport of machines to customers is handled by forwarding companies using the shortest routes by land or sea. Transport of smaller and urgent spare parts is also handled by air freight.

#### Energy consumption (MWh)

	2019	2020	2021
Fuel oil, diesel and natural gas	3,460	3,179	3,349
Purchased electricity and heat	7,891	7,949	6,746
<b>Total</b>	<b>11,351</b>	<b>11,128</b>	<b>10,095</b>

#### Greenhouse gas emissions (tCO<sub>2</sub>)

	2019	2020	2021
Scope 1 (Fuel oil, diesel and natural gas)	732	678	708
Scope 2 (Purchased electricity, heat and cooling)*	2,098	2,099	1,900
<b>Total</b>	<b>2,830</b>	<b>2,777</b>	<b>2,608</b>

\*Calculation mainly based on actual energy consumption; consumption of individual premises is based on an estimate

The 2021 calculation includes an estimate of Russia LLC Glaston emissions

\* Source: Glass for Europe



Target: CO<sub>2</sub>  
emissions  
**-50%**

### Committed to reducing emissions

Emissions from Glaston's own operations totaled 2,608 tCO<sub>2</sub> in 2021 (2,777 tCO<sub>2</sub> in 2020), of which fuels and natural gas (Scope 1) account for around 27% and electricity and district heat (Scope 2) for about 73%. Scope 2 emissions will decline significantly when, from the beginning of 2022, the Tampere, Finland and Neuhausen, Germany factories switch to using electricity produced exclusively from renewable energy.

One of the Glaston Group's four non-financial targets is to halve the intensity of CO<sub>2</sub> emissions from the company's own operations by 2025. A brisk start was made along the path towards the target. Relative to net sales, Glaston's Scope 1 and 2 emissions (14.3 tCO<sub>2</sub>/EUR million) decreased by 13% compared to the baseline in 2020 (16.3 tCO<sub>2</sub>/EUR million).

At the end of 2021, a study was conducted in collaboration with the Upright Project to assess the net

effects on the environment, people and society caused and induced by Glaston's business activities. The study estimated Glaston's total carbon footprint to be 34,400 tonnes of CO<sub>2</sub>, most of which, about 92%, arises in the company's value chain (Scope 3). The company intends to review the calculation of Scope 3 emissions during 2022.

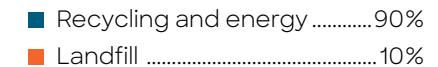
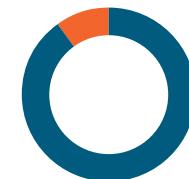
### Recycling of packaging materials and waste

The primary aim is to prevent the generation of waste. The goal is to minimize the amount of waste in general, and particularly the amount that ends up other than in final disposal. Glaston's operations give rise to a lot of packaging materials, and they are sorted and either recycled or used as energy waste. In 2021, the total amount of waste increased by around 13%, but at the same time a larger proportion was directed to recycling or for energy.

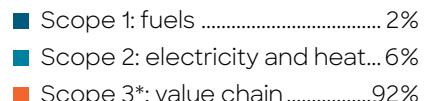
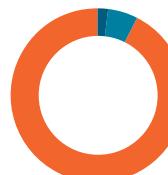
### Greenhouse gas emissions to net sales (tCO<sub>2</sub>)/EUR million)



### Waste disposal 2021

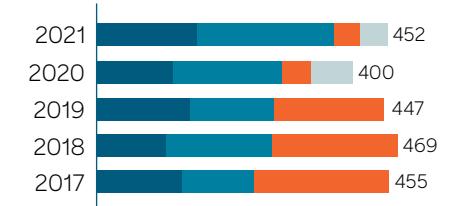


### Estimated breakdown of Glaston's greenhouse gas emissions 2021



\*estimate: The Upright Project

### Waste by country, tonnes



# Responsible business

Financial responsibility is reflected in Glaston's responsible, long-term and sound financial management. Glaston applies a risk management policy approved by the company's Board of Directors.

Glaston is committed to complying with local tax laws and regulations as well as the OECD Transfer Pricing Guidelines. Glaston is committed to pay taxes and other tax-like charges based on current laws and to report and disclose its tax information in accordance with applicable legislation. Glaston maintains accounting systems and controls that support tax compliance. The company operates transparently and appropriately with all tax authorities.

## Generating economic value added

Sustainable value creation requires motivated employees, competitive products and solutions, and satisfied customers. Sustainable operations facilitate Glaston's ability to fulfill its obligations towards its key stakeholders. Personnel salaries, payments to goods and service providers, social taxes, and potential dividends and returns of capital to shareholders are Glaston's most

important obligations, as are the means to create economic value added.

In 2021, Glaston Group's net sales totaled EUR 182.7 (170.1) million, of which service operations accounted for 36.5%. Comparable EBITA was EUR 11.1 million.

In financial year 2021, Glaston acquired materials, products and services totaling EUR 116.1 million and paid income taxes of EUR 1.0 million. Salaries and bonuses paid to personnel totaled EUR 48.6 million and pension expenses EUR 3.6 million. Glaston

had an average of 731 employees in 2021. The company's investments in tangible and intangible assets totaled EUR 5.2 million.

## Value added generated and distributed (EUR million)

		2021	2020	2019
<b>Value added generated</b>				
Customers	Net sales	182.7	170.1	181.0
<b>Value added distributed</b>				
Suppliers	Purchased goods, materials and services	116.1	94.8	130.9
Employees	Salaries, bonuses and social expenses	58.3	53.6	51.4
Financiers	Financial expenses	2.0	2.0	2.7
Owners	Dividend/return of capital	2.5	1.7	0.0
Public sector	Taxes	0.8	1.4	0.9
Business development	R&D, investments	6.5	5.8	6.4

# Responsible sourcing



## Suppliers

- Supplier requirements, assessments and audit
- Human rights and workplace safety within the supply chain
- Anti-corruption in supply chain and sourcing
- Environmental matters in the supply chain



# Fair and honest business

## Responsible sourcing

Suppliers of goods and services play an important role in Glaston's value chain. Most of Glaston's approximately 2,300 active subcontractors operate in Europe, where the company's largest assembly and production units are located. Glaston's factories in Finland, Switzerland and China assemble machines, while its factory in Germany manufactures machines.

Of Glaston's purchases, approximately 85% come from the EMEA area, with the remainder coming from, among other places, Asia and the USA. The most significant materials purchased for machine manufacturing include steel structures, electrical and automation components, power centers and process blowers.

One of Glaston's strategic cornerstone initiatives is *Master global sourcing and manufacturing*, the objective of which is to improve operational efficiency through more harmonized sourcing and manufacturing processes. In this work, an important element is responsible sourcing, which includes, among other things, supplier requirements and audits as well

as implementation of human rights and occupational safety. In addition, anti-corruption in the supply chain and sourcing is systematically developed.

Glaston is committed to responsible procurement practices and to combating bribery and corruption. In its Code of Conduct, Glaston undertakes to promote fair competition, act fairly towards its suppliers, service providers and subcontractors, and respect human rights in all of its activities.

Glaston has, in addition, a separate code of conduct for its suppliers (Glaston Supplier Code of Conduct), to which suppliers will be required to commit in the future. The Glaston Supplier Code of Conduct is published in Finnish, English, German and Chinese. The company's goal is for all present and new suppliers to commit to Glaston's Code of Conduct, and the fulfillment of this goal will be reported as of 2022.

Glaston selects its suppliers carefully, and seeks long-term, good relationships with its most important suppliers. In this way, the company ensures that its partners understand and comply

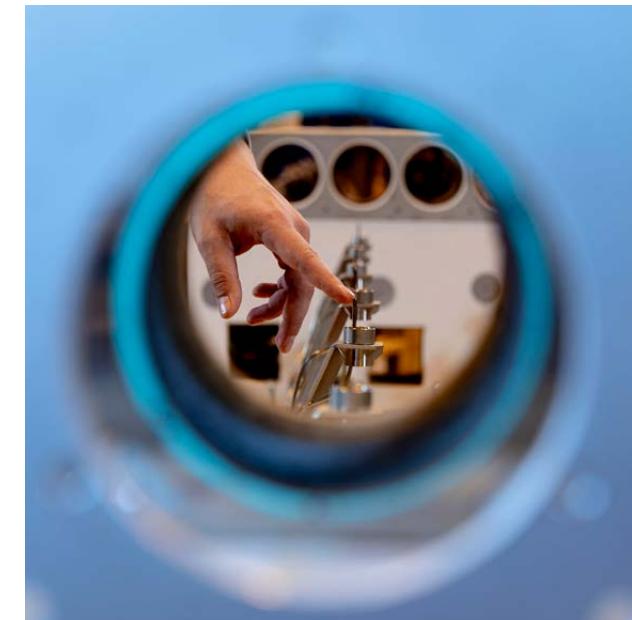
with its requirements, in relation to both processes and products.

In Europe, Glaston accepts as its suppliers only companies that are not subject to sanctions of any kind and have not committed any regulatory offences. Glaston's quality and purchasing organizations audit the most significant suppliers regularly in order to monitor the safety and quality of supplied parts and products. In 2021, 21 suppliers were audited (54 in 2020). All new suppliers go through an audit process before being approved. In addition, visits are made to suppliers, if necessary. Due to the coronavirus situation, physical audits could not be carried out as planned.

## Fair business

The Group's *Anti-bribery and anti-corruption* policy unequivocally prohibits the payment and receipt of bribes. The policy aims to ensure that the company's business is conducted honestly, in accordance with ethical standards and in compliance with anti-corruption laws, rules and regulations.

No direct or indirect payments can be made, nor can the company's



funds be conveyed directly or indirectly to any party to gain an improper advantage. In addition, the company's personnel are instructed to avoid conflicts of interest and to refuse all improper payments and benefits.

Glaston regularly arranges training for its personnel on its Code of Conduct and fair business issues. In addition, the training materials are always available on the company's intranet.

# Responsible partner



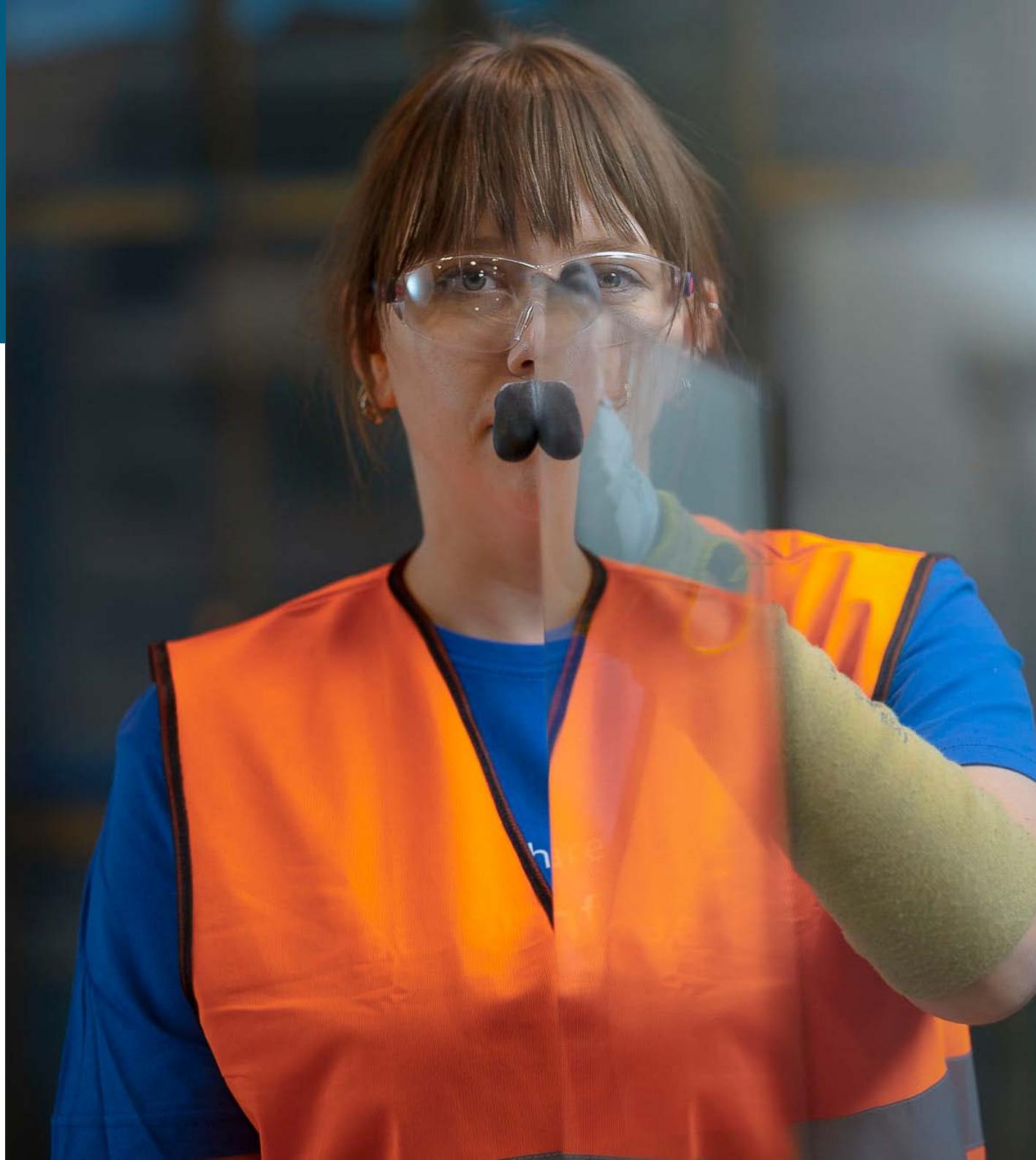
## Customer

- User experience and customer satisfaction



## Products & Services

- Machine quality, reliability and longevity, life-cycle management
- Machine safety and advising customers in operation of machines
- Digitalization and Automation
- Data safety and security
- Energy and material efficiency targeting circular economy
- End product quality, safety and recyclability



# Market's best customer experience

At the heart of Glaston's strategy and values is success with its customers. By creating more customer-oriented operating practices, the company adds customer value and continually improves the customer experience.

One of Glaston's strategic cornerstone initiatives is *Innovate with customers to win*, which focuses on seamless integration of customer understanding with joint and faster innovation and development work.

As the operating environment changes, customers' requirements and expectations of Glaston increase. Higher quality and more versatile features are continually required from customers' end products. Glass processing machines must be able to produce larger, more uniform and thinner glass surfaces. Production must also be able to adapt flexibly to making different types of glass.

Glaston develops technologies and solutions that meet these changing customer needs, and product development is often done in partnership with customers.

One of Glaston's non-financial targets is related to customer satisfaction. The target is that customers'

recommendation rate (Net Promoter Score, NPS) is above 40 by 2025. NPS is already being measured in part of the Group, and during 2022 the measurement of customers' recommendation rate will be expanded to a joint survey of Glaston as a whole.

## **Safe use and customer support throughout the life cycle**

Glass processing machines are long-term investments for their owners as, depending on the machine, they have fairly long operating lives. The machines are designed to withstand constant use at high utilization rates.

Glaston's production and assembly processes and installation methods are designed to promote product reliability as well as the safety of installers and customers. All Glaston machines manufactured in Europe comply with the EU Machinery Directive. The Directive requires manufacturers to carry out, among other things, a risk analysis of the machine, describing possible risks to personnel during the various stages of use of the machine.

Glaston has a total of approximately 4,000 installed and operating machine lines. In accordance with its life cycle

Target: Net Promoter Score

**>40**



model, Glaston has been actively developing its maintenance services, as regular service intervals increase product life and safety. Glaston has over 100 different upgrade products for different machine models. Modernizing a machine with new technology extends its operating life, improves end product quality and production process efficiency, and reduces energy consumption in glass processing.

Preventive maintenance extends the useful life of machines, while planned service intervals ensure production quality and efficiency. Connecting machines to the Glaston Insight cloud service enables the customer to monitor and report on production in real time, and provides customer support in the event of disruptions with no delays.

As a result of the increased role of various cloud services and IoT, the importance of information security and protection for companies has grown significantly. The impact on business of potential data breaches has been recognized and Glaston pays special attention to managing

information security risks, with regard to both the company's own and its customers' data. Information security practices and responsibilities are guided by Glaston's information security policy, which will be updated during 2022. Information security is regularly monitored and audited, and the company has a SOC (Security Operations Center) service, which enables continuous network monitoring. In 2021, no significant information security incidents were reported. Glaston's partners and subcontractors are also required to adhere to the company's information security guidelines.

#### **Developer of demanding products**

Glaston is the frontrunner in its field, and is known in the glass industry for its high quality. The company's position is particularly strong in developing technologically demanding products. The company carries out product development in close cooperation with its customers and partners, such as research institutes, universities and other higher education institutions.

In 2021, Glaston continued to invest in product development in close cooperation with its customers. At the forefront of product development are projects and innovations related to increasing automation that facilitate the transition towards fully automated glass processing. In addition to efficiency and reliability, consumption of energy and materials will be optimized and wastage reduced.

# Responsible member of society



## Sustainable tomorrow

- Indirect impacts on energy efficient cities and societies
- Indirect energy and emissions reductions
- Indirect material reductions
- Sustainable end-product applications
- Development of the industry, research co-operation
- Contributing to the decarbonization of societies



# Technology leader, developing the glass industry

Glaston is actively and diversely involved in developing its industry. We promote the development of both the industry and its technologies in our operations and with our partners. One of Glaston's five strategic cornerstone initiatives is *Lead digital transformation*, which includes building digital tools and infrastructure across all Glaston operations to lead the industry's digital transformation.

Glaston participates in the activities of the following international glass industry organizations:

- International Commission of Glass (ICG)
- NGA/GANA in the USA
- China Glass Association in China
- Verband Deutscher Maschinen- und Anlagenbau glass technology forum in Germany
- Flat glass associations in Germany and Finland, and other local flat glass associations

In addition, Glaston is an active member, authorized by the Finnish national working group, in glass industry committees of CEN (European Committee for Standardization) and ISO's (Inter-

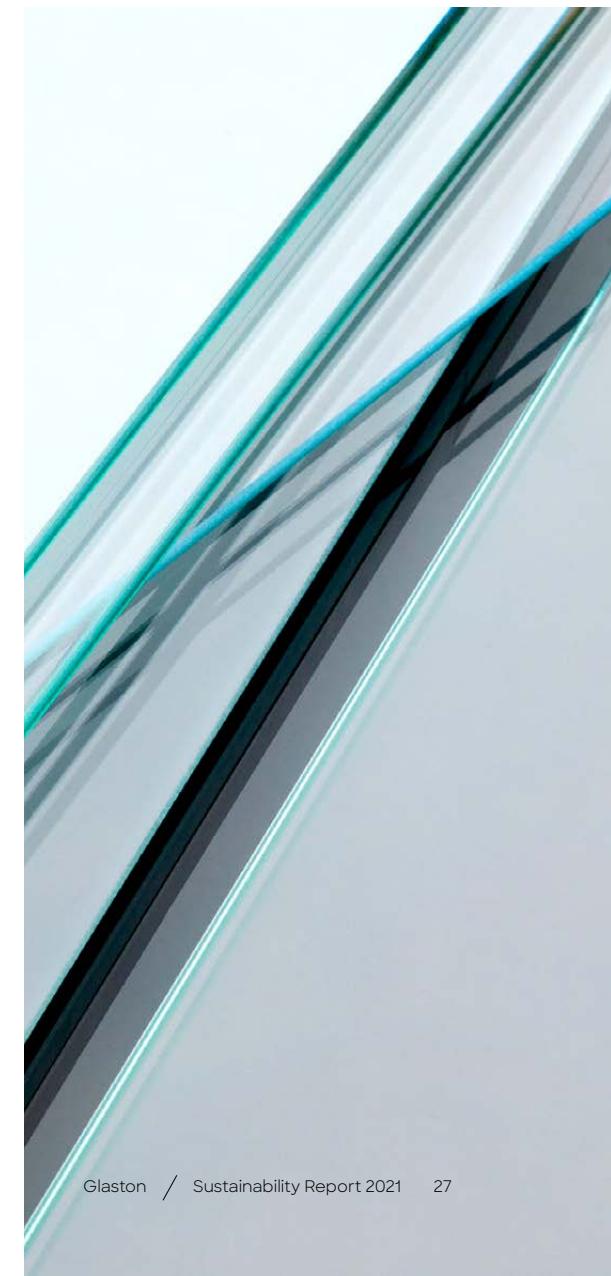
national Organization for Standardization) working groups preparing safety glass (tempered and laminated glass) standards. Via these, we are able to influence the creation of industry standards and communicate through their practical experience the needs and requirements that the standards should cover.

Glaston works closely with various research institutes and higher education institutions. Key partners include VTT Technical Research Center of Finland, the University of Tampere, Business Finland, the Fraunhofer Institutes in Germany, and universities in Switzerland. The company also actively offers summer, graduate thesis and trainee job positions to talent of the future. In Germany, the company has an apprenticeship program.

Glaston conducts development and engineering projects in new glass technologies. Companies operating in this area are typically frontrunners in their field, which means that requirements for new glass technology and its development and application in practice are very high.

The Glass Performance Days (GDP) conferences, organized by Glaston, bring together all of the various stakeholders in the glass processing chain, and they are among the glass industry's most prestigious events. The conferences aim to disseminate the latest information among industry actors and to promote the development of new areas of application and technological features. The GPD conferences have been organized since 1992 at two-year intervals, and over the years they have attracted more than 16,000 glass industry professionals.

In 2017, Glaston introduced the Step Change concept, which is part of the GPD conferences held in Finland. This event has quickly become a meeting place for startup companies and the flat glass industry. The goal of the Step Change program is to introduce and bring together new technologies, research teams and startups to develop the entire glass industry. The event has succeeded in showcasing new innovative ideas that can be widely utilized throughout the glass value chain.



# Together we build the future

Glaston has joined Ahlström Collective Impact (ACI), a joint responsibility initiative designed for investments in selected UN sustainable development projects.

Ahlström Collective Impact involves collaboration between Ahlström network companies and UNICEF Finland, enabling network companies to join forces to improve the lives of children worldwide.

The purpose of the joint initiative is to facilitate investments that support the realization of the United Nations' Sustainable Development Goals (SDGs). For 2021, the goals selected as priorities were: 4. Quality education, 5. Gender equality and 17. Partnerships.

To support the quality education goal, the ACI network of companies made a EUR 600,000 investment in



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UNICEF's Global Education Program. Disruptions caused by the coronavirus pandemic have exacerbated the learning crisis and reduced access to quality education for children. To safeguard the future of children, we need to secure their education.

For Glaston, the ACI initiative and collaboration is an innovative way to contribute to a better tomorrow for future generations. By joining forces with the Ahlström network companies, we can really make a difference.

In addition to Glaston, the ACI network consists of Ahlstrom-Munksjö, Ahlström Capital, Antti Ahlström Perilliset, Eva Ahlström Foundation, Walter Ahlström Foundation, Enics, Suominen and Destia.



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Glaston Corporation is the glass processing industry's innovative technology leader supplying equipment, services and solutions to the architectural, automotive, solar and appliance industries. The company also supports the development of new technologies integrating intelligence to glass. Glaston is committed to providing its clients with both the best know-how and the latest technologies in glass processing, with the purpose of building a better tomorrow through safer, smarter, and more energy efficient glass solutions. Glaston operates globally with manufacturing, services, and sales offices in 10 countries and its shares (GLA1V) are listed on Nasdaq Helsinki Ltd.