

**glaston**  
seeing it through

ANNUAL REPORT 2010

compre-  
hensive  
solutions  
for glass  
industry

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## Annual General Meeting

The Annual General Meeting of Glaston Corporation will be held on Tuesday 5 April 2011 at 4 p.m. at the hotel Hilton Helsinki Kalastajatorppa in Helsinki, Finland. Shareholders entered in the company's shareholders register, held by Euroclear Finland Oy, on 24 March 2011 are entitled to attend the Annual General Meeting. Shareholders who wish to attend the Annual General Meeting must notify their intention to attend at the latest by 4 p.m. on 31 March 2011:

- at Glaston Corporation's website [www.glaston.net](http://www.glaston.net)
- by e-mail to the address [taniaspare@glaston.net](mailto:taniaspare@glaston.net) or
- by telephone to number +358 10 500 6438 or
- by telefax to number +358 10 500 6515 or
- in writing to the address Glaston Oyj Abp, Yliopistonkatu 7, FI-00100 Helsinki, Finland.

## Dividend

The Board of Directors propose that no dividend be distributed for the financial year 2010.

## Information for share- holders

### Financial reporting in 2011

- Financial Statements 1 January – 31 December 2010 on Tuesday 1 March
- Annual Report 2010 in Week 11
- Interim Report 1 January – 31 March on Wednesday 4 May
- Interim Report 1 January – 30 June on Thursday 11 August
- Interim Report 1 January – 30 September on Wednesday 26 October

Glaston publishes financial reports and bulletins in Finnish and English, and they are also available on the company's website [www.glaston.net](http://www.glaston.net).

### Further information

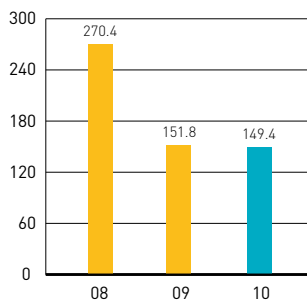
Agneta Selroos  
Communication and Marketing Director  
tel. +358 10 500 6105  
email: [agneta.selroos@glaston.net](mailto:agneta.selroos@glaston.net)

# Year 2010 in Brief

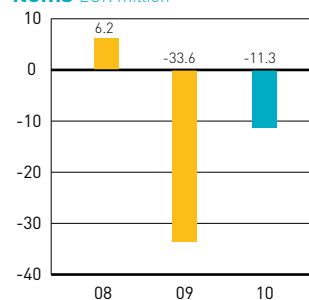
In the demand for glass processing machinery, subtle signs of market recovery could be seen. The challenging market conditions, operating losses and the shift of focus in demand into the emerging markets required changes to be made in Glaston's operating methods. In order to improve profitability, the efficiency of sourcing activities was increased, flexibility was enhanced and the sales and service network was strengthened. In addition, various adjustment measures were carried out, some of which will generate visible results in 2011.

- The demand remained brisk in Asia and South America. In North America and Europe the market conditions continued to be challenging.
- Net sales remained on the 2009 level at EUR 149.4 million (EUR 151.8 million).
- Operating result excluding non-recurring items was EUR -11.3 (-33.6) million i.e. -7.5% (-22.2)% of net sales.
- The Machines segment yielded a negative result whereas the Services segment and Software Solutions rose to a positive level.
- Investments in product development continued, and the new product launches were well received by the customers.
- The headcount decreased by 17.5%, to 957 employees. This reduction took place mainly in the European operations, whereas in Asia, the headcount increased.

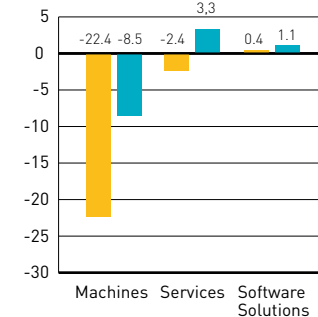
**Net sales**  
EUR million



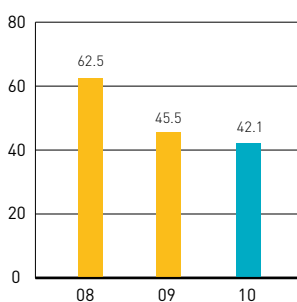
**Operating result excl. non-recurring items**  
EUR million



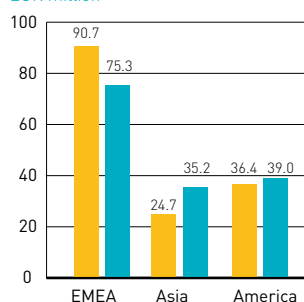
**Operating result by segment**  
EUR million



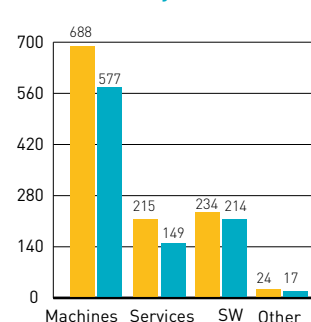
**Order book**  
EUR million



**Sales by market area**  
EUR million



**Personnel at year-end**



# Glaston in Brief

Glaston is one of the world's leading glass technology providers. Its comprehensive offering encompasses machinery, services and software solutions. Thanks to its broad product range, Glaston can offer its customers comprehensive factory or production line solutions as well as services covering the entire life cycle of machinery. Glaston's aim is to be the most valued partner for its customers. Its most important customer groups are construction, solar energy and automotive glass manufacturers as well as the furniture industry.

## **A global company**

Glaston operates globally and its extensive customer service network consists of over 20 sites worldwide. Glaston manufactures glass processing technology in four countries on three continents. Glaston's head office is lo-

cated in Finland. Glaston's business is divided into three reportable segments: Machines, Services and Software Solutions. Glaston's share (GLA1V) is listed on the NASDAQ OMX Helsinki Small Cap list.

## **A pioneer in technology**

Glaston's solutions and services support customer's operations throughout the entire life cycle of products. Glaston is a market leader in several product segments. In technologically demanding products, its position is particularly strong. Glaston's products are known in the market under several strong brands.

Glaston's success is based on the long-term development of new products and their features. Its aim is to develop technical solutions benefiting both customers and the environment. In glass processing, the most

significant requirements are energy efficiency and optimal use of materials. With Glaston's solutions it is possible to process glass types that reduce energy consumption in buildings as well as glass types used for solar energy production.

## **An important industry developer**

Glaston is an important developer in its industry, and its operations are supported by close cooperation with clients and other players in the field. Glaston organises the Glass Performance Days (GPD) event, a meeting place for all stakeholders in the glass processing chain. The target of this unique event is to gather and distribute the latest news among the players in the industry as well as to promote the development of new applications and technological features.

# Reliability

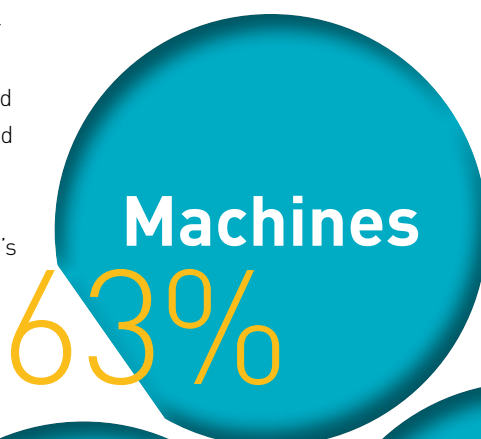
Top quality products and services from the wide product range to serve different customer needs.

# Service

Extensive, global customer service network for all customer needs.

The **Machines** segment offers a wide range of production machinery and tools for the glass industry. Glaston's product range includes machines for glass cutting and drilling, edge-shaping and polishing, horizontal tempering, bending, bend tempering and lamination. Bavelloni is Glaston's brand for glass pre-processing machines, and Tamglass and Uniglass are tempering, bending and lamination machine brands. Bavelloni and AAA are Glaston's tool brands.

Share of net sales



The **Services** segment provides services that enable customers to take their production capacity in full and undisturbed use during the entire lifetime of their machines. Glaston's services include contracted services, spare parts, service work, machinery relocation services, machine upgrades and modernizations, machinery and software upgrades, as well as training and consulting services.



Share of net sales



Share of net sales

The **Software Solutions** segment provides the glass processing and window manufacturing industry with software solutions sold under the Albat+Wirsam and Cantor brands. The segment's software offering covers the customer's entire supply chain by comprising enterprise resource planning systems, commercial process management systems, and monitoring systems. Software solutions can be tailored for single machines but also for fully integrated and automated product lines.

# Quality

Premium quality of glass processed with our technology.

# Supporting Growth and Profitability

Glaston's strategy supports the company's growth and profitability targets as well as its aspiration to continue to be a pioneer in its field. In 2010, Glaston focused on strengthening its growth potential and profitability.

Changes in the operating environment require that Glaston has the ability to adjust quickly to changing market conditions and respond to new challenges. The most significant challenges are related to the shift of emphasis to developing markets and increasing demand for technology suited for the production of even more high-quality glass types. In 2010, Glaston strongly focused on expanding its sales and service network, optimizing production close to growing markets, optimizing the supply chain, and strengthening its product range and product management.

## **Growing customer segments**

Glaston operates in growing markets, and the company's most significant customer segments, the construction industry, solar energy market, and automotive, are growing industries in the long term. In these customer segments, Glaston is able to utilize its existing strong market position and expertise. Glaston continued to focus on serving its customers in 2010 by developing its products and services, and moving towards an agent and distributor-based operating model.

## **Strong market position in Asia**

The focal point of Glaston's operations has quickly shifted from the mature markets in Europe and North America to the growing markets in Asia and South America. Glaston's goal is to strengthen its market position in growing markets, particularly China and Asia in general. In 2010, Glaston

continued to boost its service ability in rapidly developing market areas, where production and product development resources were increased, as operations in Europe and North America were adjusted to the prevailing market situation.

## **Developing services**

Glaston's goal is to serve its customers throughout the entire life cycle of its machines and equipment. Its competitiveness and solid market position are strengthened by a more comprehensive product and service range than its competitors offer, including maintenance services, and consulting and training services concerning machines and equipment as well as software and glass technology. In 2010, Glaston continued to develop its services by e.g. launching new products that improve end product quality and by strengthening its service network.



### **Sustainable development through a vast range of products and services**

Glaston's product and service range includes glass processing machines, services, and software solutions. Thanks to its broad product range, Glaston can offer its customers comprehensive factory or production line solutions. Glaston is also a pioneer in glass processing technology and main-

tenance services for glass processing machinery; the company has over 20 service and sales locations worldwide. Customer needs are the starting point in product development and products are constantly developed to meet market demands. Energy efficiency and quality are the key elements in product development.

Glaston has several strong brands in the market. Tamglass and Uniglass are the brands for safety glass machines and Bavelloni for pre-processing machines. Glaston's well-known brand for software solutions is Albat+Wirsam, and Bavelloni and AAA in tools for pre-processing machines.

“ We achieved some clear financial gains from optimizing our sourcing operations and developing our supply chain in 2010.



## Focus on improving efficiency of operations

Our starting point at the beginning of 2010 was challenging, because the demand for our products and services was still very low and our operations were clearly unprofitable. We already began to improve the efficiency of our operations in 2009, but most of the work to return to profitability has been done in 2010. Indeed, the past year brought along many changes to Glaston; vigorous cost savings and significant workloads.

Glaston's markets remained challenging as a whole, even though some areas saw some very strong growth. Demand in our most important market area, Europe, remained low, with the exception of Germany's improving market situation. There was significant growth in China and Brazil, whereas the markets in the rest of South and North America remained unstable. Tight competition continued in the sector. Glaston managed to slightly increase the profit

margins of its machine deals by excluding itself from very low-price transactions.

The investment needs of our clients' – the glass processors – are above all directed by developments in the demand for glass. Even though the use of glass increased as the construction and auto industries recovered, our clients were able to fulfill the increased demand mainly through their existing production capacity. The rise in the capacity utiliza-



tion rate, in turn, translated into a demand for services and software solutions. However, over the long term the demand for glass will require investments in new, more efficient production machinery. Processed glass is also the most important component in the solar panel industry. Significant investments planned into this renewable energy also entail massive future growth potential for Glaston's products.

### Improved profitability

Glaston's net sales remained on the 2009 level at EUR 149.4 million (EUR 151.8 million in 2009). Our operating result improved significantly, but remained in the red at EUR -11.3 million (EUR -33.6 million). Non-recurring expenses related mainly to adjustment measures amounted to EUR 13.7 million. Our improved result is proof of the effectiveness of our adjustment and efficiency measures. The Services segment already achieved good results and Software Solutions rose to a satisfactory level, but the Machines segment yielded a negative result, further aggravated by an impairment loss of goodwill amounting to EUR 5.8 million.

The past years have also been very challenging for our personnel. We have had to improve the efficiency of our operations and conduct two rounds of employer-employee negotiations. As a result, our personnel has already been reduced by 203 employees mainly in Europe. On the other hand, we have recruited new employees in our locations in China. Our organization and Executive Management Group have also undergone changes during the past year. Our number of employees was 957 at the end of the year, but this figure will decrease slightly further due to adjustment measures initiated at the end of 2010.

### Focus on developing markets

Glaston has production plants in Finland, Italy, China, and Brazil. As part of the changes in our organization and

operating methods, we have put more focus to the booming markets in Asia and South America. It is efficient to locate glass production close to the end user, and therefore it is also important that the technology supplier and service provider operates close to the client. We have strengthened production, sourcing and product development in our plants in China and Brazil. We have designed the optimal products for these growing markets and achieved a strong market position in both countries.

### Flexibility through cooperation

In line with Glaston's flexible operating methods, we will focus on product development and final assembly in machine production. We will utilize our global network of subcontractors in sourcing parts and components. We achieved some clear financial gains from optimizing our sourcing operations and developing our supply chain in 2010. Our comprehensive network of agents and dealers, whose capacities we improved over the past year, also strengthen our sales, marketing and maintenance organizations.

### Leaps ahead in product development

Glaston has a strong position in developing glass technology, and our brands are very well known in the market. Thanks to our product development, we are a pioneer in many products, such as heat treatment technology and production software. We took major leaps ahead in product development in 2010. We launched successfully several new products, that all focus on significantly improving our customers' production and energy efficiency and, naturally, high quality. However, protecting the products through patents is also vital. At the end of the year, we won a trial in Canada concerning the violation of two patents for tempering and bending technology.

### Expectations for growth

Our most important goal for 2011 is to improve the profitability of our operations. Thanks to the significant measures we have taken, our starting point is relatively solid. We already have the prerequisites for profitable operations, but we will further improve our focus on customers, supply chain, and our personnel's competence. Our goal is a stronger, more unified Glaston.

Our expectations concerning market developments for this year are still conservative, although brighter. The market still looks challenging at the beginning of the year, but we are already expecting the second half of 2011 to be busier. The use of glass, which directs the industry's development over the long term, seems to be increasing significantly, and the demand for various developed glass solutions is bringing some new potential into the market. Glass offers considerable advantages in the battle for energy efficiency and against climate change.

I would like to extend my warm thanks to everyone at Glaston for your good work, and to our cooperation partners and shareholders for your trust in our work. We will strive to exceed your expectations in the future.



**Arto Metsänen**  
CEO and President





# Growth potential in the market

Glaston serves the flat glass processing industry through developing and supplying glass processing machines, services for the machines' entire life cycle, and production software. Glaston has a worldwide operating network and its client base includes the most significant glass processors. Developments in demand for flat glass and thus, glass industry investment needs, affect the demand for Glaston's products.

After an exceptionally dramatic decline that began in late 2008, there were slight signs of recovery in demand for glass processing technology in 2010. Customers were more willing to invest, negotiations increased, and certain delayed projects were restarted. Demand for machine upgrades also grew. However, the recovery in demand was reserved and geographically fragmented. In many areas, there was still significant overcapacity in glass production. In addition, financing difficulties still presented a challenge especially at the beginning of the year.

Glaston has divided its market areas into EMEA, Asia, and America. EMEA, in other words Europe, Africa, the Middle East, Russia and other CIS countries, is still Glaston's most significant market area. In 2010, it generated approximately half of Glaston's net sales. Developments were uneven in Europe; demand increased in Germany and Eastern Europe, but investments remained low elsewhere due to overcapacity in glass processing. Asia is a rapidly growing market area, whose contribution to net sales increased to 24%. Particularly customers that produce glass for the solar power and construction industry actively invested in new production lines. At the same time, demand focused more on efficient, reliable machines that produce top quality glass.

The American market is divided into North America, which has slightly declined in recent years, and the rapidly developing South America. America's

share of net sales was 26% in 2010. Demand picked up in South America, but new competitors emerged simultaneously, tightening competition. The weakening of the euro compared to many local currencies boosted the competitiveness of Glaston's machines and software products manufactured in Europe. The North American market, in turn, remained unstable, and investments remained low because of a decline in the construction industry. There was still overcapacity in the glass processing industry, making customers focus on increasing the efficiency of their operations.

## Long-term investments

Glass processing machines are long-term investments, as depending on the machine, their life cycle may be as long as 15–20 years. Therefore, efficiency, reliability and adaptability are the most important factors to consider when choosing a machine. A significant share of the machines' operating costs comes from the price of energy; placing greater importance of the machines' production capacity and energy-efficiency from the customer's perspective. Energy-efficient technology also reduces CO<sub>2</sub> emissions.

Materials are another considerable part of production costs, so it is important to ensure the high quality of the end product, such as the horizontality of the glass, in order to minimize wastage. Modern machinery is an absolute prerequisite for quality in manufacturing technologically demanding glass. The upgrading and maintenance of machines enable the production of high quality glass. The availability and quality of services are increasingly important competitive factors in the sales of glass technology.



### Fragmented competition

The glass technology market is still fragmented and Glaston has many competitors. However, due to the challenging market situation, consolidation has accelerated in recent years. Small operators have suffered most from the tightening competition, but the narrowing of the market and margins have affected the capacity of all suppliers. Chinese competitors have also presented a significant challenge. In China, local suppliers have managed to catch up with Western companies and companies that have been in the business longer in terms of technological expertise.

### Increasing demand for glass

In 2009, the total flat glass market amounted to approximately 52 million tons, approximately EUR 22 billion in value. The market value of processed glass edged up to approximately EUR 52 billion. In the long term, the use of glass has increased annually by about 4–5%. During the past 20 years, growth in the demand for glass has surpassed the average growth of gross domestic product, and during the past 10 years, the growth rate has been up to 3% higher than that of the economy. However, during 2008–2009, demand for glass dropped. The use of glass slightly picked up again in 2010, but recovery was slow.

### Construction industry as the biggest user of glass

The construction industry accounts for about 80% of glass consumption, so investments in glass technology clearly follow cycles in the construction industry. This consumption is divided in half between new construction and renovation projects. The automotive industry is another significant customer group. It accounts for approximately 10% of glass consumption. The remaining 10% is used by various other industries, such as furniture, equipment, and the solar panel industry.

The number of new construction and renovation projects is directly linked to demand for glass technology. Normally construction increases at a rate a few percentage points above GNP growth.

**America Demand continued to pick up in South America. The North American market remained unstable, and investments remained low because of a decline in the construction industry.**

26%

On the other hand, the use of glass has clearly increased in construction industry, because correctly designed glass use can reduce a building's energy consumption, improve sound proofing, and increase light. Environmental awareness and energy prices are the most significant factors contributing to the increase in glass use. The use of glass as construction material has also increased due to people's personal preferences.

Requirements for glass used in construction change constantly, so the use of more demanding, versatile, and high quality glass types is increasing. The use of insulating and energy saving glass is increasing in an effort to achieve energy saving targets. Various types of safety glass are used because of security regulations. In general, glass size, coating, and bendability requirements are increasing, and the need for highly processed glass is growing.

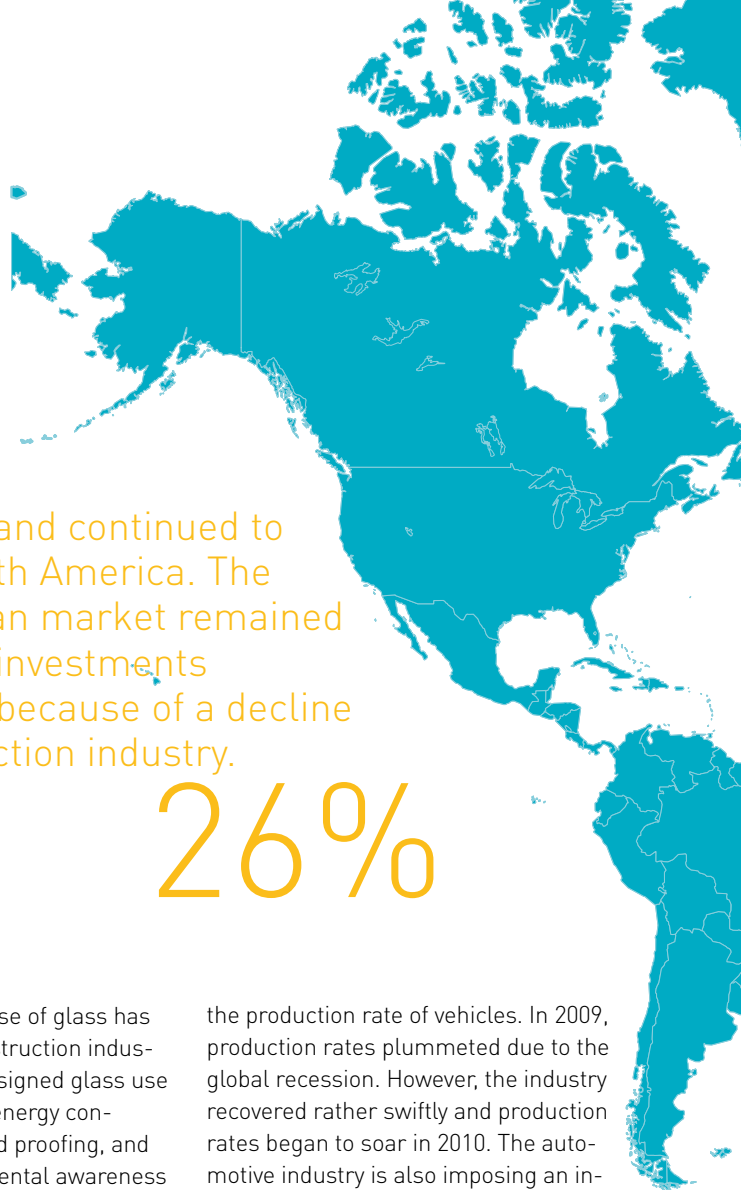
### Safety glass for the automotive industry

The amount of glass consumed by the automotive industry is directly related to

the production rate of vehicles. In 2009, production rates plummeted due to the global recession. However, the industry recovered rather swiftly and production rates began to soar in 2010. The automotive industry is also imposing an increasing number of requirements concerning glass properties as glass surfaces in vehicles increase, for example.

### Solar energy is a significant market

The importance of alternative energy sources is increasing, because fossil fuel sources are diminishing and combating climate change requires increased use of energy solutions that support sustainable development. The use of solar panels is a strong alternative for cleaner energy production. Many governments subsidize the use of solar panels in order to achieve the set emissions targets. On the other hand, investments in solar power decreased significantly during the recession due to financing difficulties in the industry. However, by the end of 2010 there were signs of recovering interest from solar panel manufacturers.




 A world map with three regions highlighted in different colors: Europe in light blue, Asia in light green, and North America in light orange. Each region is labeled with a percentage indicating growth.
 

# 50%

Developments were uneven in **Europe** and demand remained low.

**Asia** Growth continued and particularly customers that produce glass for the solar power and construction industry actively invested in new production lines.

# 24%

### Focus on developing markets

The biggest markets for glass are in China, where companies are also building new production capacity the most. Asia consumes approximately 60% of all glass produced. Europe is the second largest market area, accounting for approximately 16% of glass consumption. The total share of North and South America together is 12%. The remaining approximately 10% is divided between Russia, other CIS countries, Australia, and Africa. The use of glass and particularly high quality, processed glass is expanding in developing markets, such as Asia and parts of South America, whereas developed markets will see more steady growth.

### Market potential in Asia

Even though the use of glass and especially the need for processed glass seems to be increasing in the future, interest in investing is not expected to dramatically increase in the industry for the next few years. Financing difficulties still present a challenge and economic uncertainty keeps investors cautious in many regions.

Since transporting glass is uneconomical, glass processing is usually centralized close to its market. Therefore, the greatest potential lies in Asia, where the need for glass is increasing more rapidly due to booming construction, the increased use of solar power, and the recovery of the automotive

industry. Glaston's production facility in China enables the production of competitive products for the local market.

Customer investments are expected to increase slightly in Europe and elsewhere in the EMEA region in certain areas like Central Europe, Russia, and some Eastern European countries. In Europe, investments are often targeted at ensuring end product quality. Many uncertainty factors still remain in North America, whereas new orders are expected to come in from South America.





# Machines

The Machines segment has developed a wide range of glass processing machinery for the glass industry. The segment's expertise covers glass pre-processing and safety glass technologies, as well as tools used in pre-processing machines. Glaston's product range includes machines for glass cutting and drilling, edge-shaping and polishing, flat tempering, bending, bend tempering and lamination. Certain pre-processing technologies are also used in stone processing.

2010 was still a challenging year for the Machines segment, even though certain markets showed signs of recovery. However, developments in the market were fragmented, as there was still overcapacity in glass processing in some market areas. Customers still experienced financing difficulties in many market areas due to the instability of the financial market. The segment's net sales increased to EUR 95.0 million, representing a 3% rise from 2009 (EUR 92.5 million). The segment's operating loss also decreased to EUR -8.5 million (EUR -22.4 million).

Adjustment and efficiency measures first introduced in 2009 were continued in order to improve profitability. The segment managed to cut production costs by increasing production in low-cost locations and by optimizing sourcing, but the adjustment measures also called for personnel cuts. At the end of 2010, the number of employees in the segment was 577 (688), but due to employer-employee negotiations held in December, this figure will be reduced slightly further at the beginning of 2011. At the end of 2010, the segment's order book was EUR 37.4 million (EUR 39.8 million).

### Renewed interest in investing

Demand for glass processing machines developed unevenly in different market areas. Active demand continued in Asia, where both the construction and automotive industry needed increasing quantities of glass. The production of solar panels picked up again, but also continued to shift to Asia and China, in particular. This translated into an increase in demand in Asia, where local competitors also became more active, tightening competition in the market area. There were also signs of economic recovery in other Asian countries, such as India. The South American market remained active thanks to Brazil, in particular. There were also some signs of recovery in

North America, although the market as whole still remained subdued compared to the beginning of the 21st century.

As demand for glass picked up and the overall outlook improved, glass processors began to show an increased interest in investing. Demand for tools also increased as the utilization rates of glass processing machines rose. Projects that had previously been interrupted were restarted and new negotiations began on several fronts, with demand focusing rather evenly on all Glaston products. Despite increased negotiations, investors remained cautious, which translated into lengthy decision-making periods.

### An industry leader

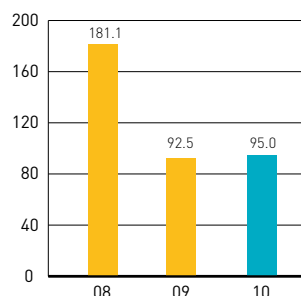
Glaston is a clear market leader in safety glass machines based on heat treatment technology whereas in pre-processing technology Glaston is one of the world's leading companies. Bavelloni is Glaston's brand for glass pre-processing machines, and Tamglass and Uniglass are tempering, bending and lamination machine brands. Bavelloni and AAA are Glaston's tool brands. Pre-processing machines are primarily sold as standard products, but tempering, bending, and lamination machines are also available as custom-made solutions.

### Several new launches

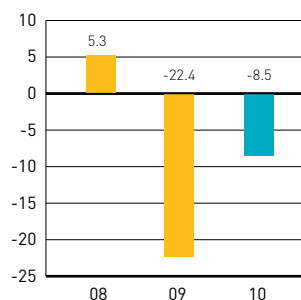
Glaston actively expanded its machine product range in 2010. Three new flat tempering machines, a new automatic quality control system for flat tempering machines, a new control system and two new cutting lines were launched.

Tamglass FC500™ is a machine designed for tempering high-quality Low-E glass at large production quantities, and it also has a patented energy-saving heating system. Tamglass RC200™, in turn, is a competitively priced machine that meets customers' basic needs. The product also reaches new customer

### Sales



### Operating profit



groups that were not previously in the financial position to produce safety glass themselves. RC200™ has been particularly well received among Asian customers. Tamglass Power Control™ was launched in early 2010 for the growing South American Low-E glass market. The new horizontal tempering machines attracted great interest among customers. As the use of larger-scale glass products has also become more common in South America, production of the ProE MAGNUM™ product group was expanded to Brazil in addition to Finland. Glaston also launched a new iControl control and automation system for safety glass machines, which improves the usability of the machines and the efficiency and reliability of the customer's production process, among other things.

As volumes increase, Asian customers have begun to automate process phases in order to improve efficiency. As the focus of the market shifted, Glaston relocated the production of glass cutting machines from Italy to China. The production of the Bavelloni Dragon™ and Bavelloni ProCut™ cutting lines, developed specifically for the Asian market, began well.

In fall 2010, Glaston and the Finnish company Beneq Oy signed a cooperation agreement concerning the development and delivery of production technology for thin-film-coated solar panel glass. The unique Beneq-Glaston TFC 2000™ series developed by both companies was presented at the Glasstec fair in September 2010.

### Increasing customer demand

The Machines segment's broad client base is comprised of glass processors serving the construction, automotive, appliance, and solar energy industry. Glaston's competitive advantages are strong technological expertise, top quality products, a cutting-edge product range, and a comprehensive sales and service network. The product range is based on self-developed technologies, many of which create a clear competitive advantage. Customer demand concerning glass quality and properties are continuously rising. Customers are also asking for increasingly bigger glass products.

Quality is a major priority for customers in glass processing technology. Glass processing machines are long-term investments for customers. Profit-

able production requires both low production costs and high quality end products. Glaston's efficient production technology enables high capacity in production, low material wastage, energy efficiency, top quality end products and an undisturbed production process.

### Production close to customers

Glaston manufactures glass processing machines in Italy, Brazil, China, and Finland. Tool production is centralized in Italy, China and Brazil. The production facilities in these countries are equipped in different ways, so they mainly focus on the production of certain machines. Glaston is responsible for the entire supply chain in tool production, but machine production facilities focus on final assembly, testing, and quality control.

Glaston offers a comprehensive range of diamond and grinding tools used in pre-processing machines. They are suited for versatile glass production for the construction, furniture, automotive, and energy glass industries. Tool production is based on Glaston's own product development and production. Glaston's tools are also compatible with other manufacturers' machines.



Glaston has considerable expertise in glass grinding. An example of this is the V series grinding machines, which are suitable for the production of high quality architectural, appliance and solar power glass. Glass grinding machines are manufactured at Glaston's production plant in Italy.





Glaston utilizes its wide-ranging network of suppliers and sub-contractors in its production. Locating production close to end users makes it possible to shape the product range according to customers' needs, cut transport costs and customs duties, and shift the focus of production to lower-cost locations. Glaston has taken further steps to relocate production to its factory in China, and it is still strengthening its local network of suppliers.

#### Aiming to improve profitability

The Machines segment's market shows signs of continued recovery in 2011. Demand is expected to remain strong in Asia and South America, in particular. The outlook is also positive in Eastern Europe and Russia. In addition, there will be a great deal of potential in North

## Glaston actively expanded its machine product range in 2010.

America if the economic upturn begins. Even though there is tough competition in the industry, prices are expected to normalize gradually thanks to increasing demand. Glaston's competitive product range, new launches and comprehensive services solidify its position against its competitors, especially as customer needs and end product quality requirements increase.

The segment's goal is to focus on improving its profitability. Decreased production costs and efficiency measures make it possible to turn the seg-

ment's operating result positive. The segment will continue to optimize its product range and expand its offering within product groups. New launches are in the works and the iControl control and automation system will be offered for other types of machinery as well. Measures to improve flexibility in production by developing production methods will be continued, and the sub-contractor chain will be strengthened by centralizing purchases more efficiently.

The use of safety glass in construction is increasing. Using energy glass cuts heating costs considerably and reduces CO<sub>2</sub> emissions. The high capacity flat tempering line Tamglass FC 500™ is suited for tempering high quality Low-E glass, and it includes an energy-saving convection system.



Glaston has solid expertise in the production technology of special glass types needed in the production of solar power. Highly bendable glass types of high optical quality are used in solar cells and collectors. In September 2010, Glaston signed a cooperation agreement with the Finnish Beneq Oy concerning production technology for thin-film-coated solar panel glass. The unique Beneq-Glaston TFC 2000™ series was presented at the Glasstec fair in September 2010.





# Services

Glaston provides services that enable customers to make full and undisturbed use of their production capacity throughout the entire lifetime of their machines. Glaston's services include contracted services, spare parts, service work, machinery relocation services, machinery and software upgrades, as well as training and consulting services.

The market recovered in 2010 after the previous year's slump. The number of service agreements increased, as did the demand for upgrades and modernization services, in particular. The Services segment's net sales were EUR 32.0 million (EUR 37.7 million). The segment's operating result increased to a positive EUR 3.3 million (EUR -2.4 million). Profitability improved thanks to internal efficiency measures, the segment's product mix, and regional marketing campaigns.

### Proactive sales

Glaston's goal is to expand its service business and increase its share of the company's net sales. The segment strove to increase net sales through active marketing campaigns and offering services more actively in connection with machine purchases. The segment's client base did indeed expand during the year, and service agreements were more frequently signed in connection with machinery purchases. Approximately half of Glaston's machines are already serviced by Glaston.

Glaston launched also two new upgrade products which are iLook™ online measurement system for optical quality and dimension of glass, and Vortex Pro™ convection system. iLook™ can be installed to a flat tempering line and it measures the size and optical quality of the glass according to pre-defined quality levels and produces comprehensive reports. With iLook™ every glass processor can create his own individual quality standard and deliver always the right kind of glass quality to the customer, thus improving both the production process and customer satisfaction. Vortex Pro™ convection system increases production line capacity and improves glass quality through unique targeted heat transfer. Both new launches were well received, and Glaston's competitors do not offer similar products.

### Solid technological expertise

Glaston's services are based on extensive expertise in glass processing technology and production processes and on understanding customer needs. The Services segment employs approximately 150 professionals in regional offices and delivery centers all over the world. A network of agents and dealers complements the service network. Operating close to customers, and the capacity to respond quickly and prompt spare part deliveries are important competitive advantages in maintenance services. Glaston's ratings in customer satisfaction surveys indicate that it has succeeded very well as a service provider.

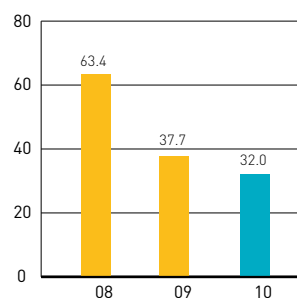
Customers value a reliable service provider that can guarantee the production line efficiency and support for the entire lifetime of the machinery. The most significant production costs in glass processing come from energy, materials and personnel costs. The correct control of the production line has a great impact on both costs and the end product quality. As quality requirements and glass properties increase, the need for services increases. Existing production lines can be upgraded and modernized to meet current demands.

Glaston's services also support new machine sales. Other technology providers do not offer a comparable range of services, and big customers in particular consider the availability of services a condition to machine purchases. In addition, through services Glaston keeps in constant contact with its customers and receives necessary information for its product development.

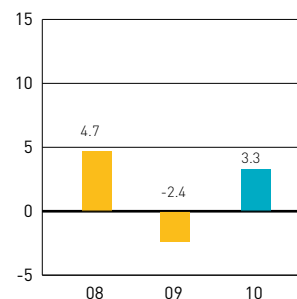
### Growth potential on many fronts

Compared to the previous year the starting point for operations in 2011 is better. The market outlook is more positive, profitability has increased and the segment's order book is reasonably solid. The segment's goal is to expand further

### Sales



### Operating profit



and increase its share in Glaston's net sales. To achieve these goals active sales, cost efficiency, and the development of new products is needed.

Glaston's wide, strong customer relationships and the installed machine base represent the biggest potential for growth. Customers' trend to outsource operations that are not directly linked to their core business also offer opportunities for growth. In addition the manufacturer of the latest technology is able to provide also the best expertise for the new technology. Glaston's broad range of upgrading products and technological expertise give customers the opportunity to extend their products' lifetime, increase energy efficiency and higher quality.





# Software Solutions

The Software Solutions segment provides the glass processing and window manufacturing industry with software solutions sold under the Albat+Wirsam and Cantor brands. The segment's software offering covers the customer's entire supply chain by comprising enterprise resource planning systems, commercial process management systems, and monitoring systems. Software solutions can be tailored for single business operation but also for fully integrated and automated business solutions.

For production management, the segment offers software for production optimization systems, machinery control, and control of material and production processes. For the management of commercial processes, the product range comprises software for customer relationship management, quotations and orders, production and capacity planning, cost calculation, material management, and invoicing. In the individual work areas, the processes are supported by monitoring systems, up to the complete networking of machinery to control the material and work flow.

### Operating profit on the rise

Demand for software solutions has recovered in Central Europe, whereas other market areas have seen a slight decline in demand. Towards the end of the year, software sales picked up due to new machine investments. As a result, the segment managed to keep its net sales to EUR 23.9 million (EUR 23.9 million). Furthermore, the operating profit climbed to EUR 1.1 million (EUR 0.4 million). Due to market trends, the segment implemented personnel reductions in declining market areas, still maintaining its solid service ability in all markets. At the end of the year, the segment employed a total of 214 employees.

### Comprehensive expertise in glass processing

One of the industry's leading suppliers of software solutions, Glaston provides an offering that is generally wider and more comprehensive than that of the competition. The segment's products can be used in several glass and window industry sectors, and they are also used in production machinery manufactured by Glaston's competitors.

The compatibility of the business and production processes in the glass and window industry improves the efficiency of the customer's supply chain. In addition, Glaston's overall expertise in glass

# The most significant group using Glaston's software solutions includes large, globally operating glass processors and window manufacturers with high standards for their end products.

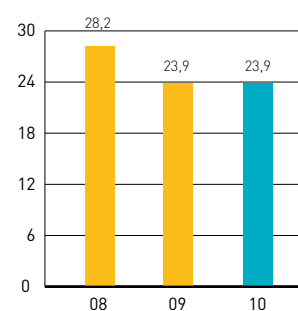
and window production promotes the development of software products. The software can cover the planning of an entire factory's production and work flow with the corresponding integrated software solutions. The segment also offers easy-to-operate software for customers who are not equipped with the machinery for high automation.

Glaston's software solutions can help customers to boost the profitability of their production by reducing material loss, increasing capacity, and decreasing production costs. The segment's software can control the entire work flow of glass and window production online in real time, whereas its competitors rely on batch-processing methods.

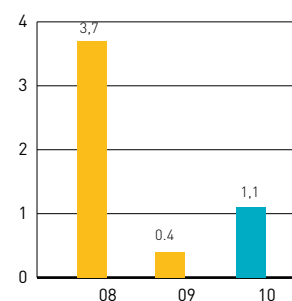
### Growing need for automation

The segment's extensive clientele consists of glass processors and window manufacturers. The most significant group using Glaston's software solutions includes large, globally operating glass processors and window manufacturers with high standards for their end products, short delivery times, and a need for flexible production. Software solutions play a particularly central role in the production of demanding architectural and solar energy glass as well as for the production of windows for the construction industry. The greatest customer potential lies in Central Europe where automation is used to enhance competitiveness in production. Customers in Eastern Europe and the Asia-Pacific region tend to require systems that are more standardized and straightforward.

### Sales



### Operating profit



The outlook for 2011 gives reason to expect moderate growth in the segment. Large global customers have already started making investments. Furthermore, the need for automation will continue to grow particularly in the segment's most important market area, Europe, where the working-age population is declining rapidly and cost of labour is high.



The background of the page is a blurred industrial scene. At the top, the word "glaston" is visible in a dark, lowercase font on a light-colored surface. Below it, there's a horizontal red line. The foreground is dominated by a complex, repeating pattern of yellow and grey, resembling a woven mesh or a series of parallel ridges and grooves, which is out of focus.

glaston

## Technological leadership

Glaston is one of the leading glass technology suppliers in the world. It has a particularly strong position in the development of products which are technologically more challenging. The starting points in Glaston's product development are customers' needs and demands, which are ever increasing along with changes in the operating environment. Constant product development and support for innovation are indeed vital for Glaston to maintain its pioneer status.

Each segment is in charge of developing its own products, and product development is done in four countries. There is active cooperation between segments in product development; information and experiences from maintenance services are utilized in developing new products and components.

### **A year of several new launches**

In 2010, the costs of product development were EUR 9.8 million (EUR 13.6 million), which corresponds to approximately 6.6% of the Group's net sales (8.9%). Product development focused on launching new products in 2010. Several new solutions were launched during the year; the most significant of which were the flat tempering machines Tamglass FC500™ and Tamglass RC200™, Tamglass Power Control™, cutting lines Bavelloni Dragon™ and Bavelloni ProCut™, as well as the iControl™ automation system, the iLook™ online quality measuring system, and the Vortex Pro™ convection system. In addition, new features were developed for the AWFactory and Panorama software solutions.

The Tamglass FC500™ flat tempering machine, developed by the Machines segment, is suited for the tempering of high quality Low-E glass, and it includes an energy-saving heating system patented by Glaston. Tamglass RC200™ is a more affordable flat tempering machine for less demanding needs. Tamglass Power Control™ was developed especially for the growing South American energy glass market. The iControl™ control and automation system developed for horizontal tempering machines ensures production efficiency and reliability. In addition, the Bavelloni Dragon™ and Bavelloni ProCut™ cutting lines were developed especially for the Chinese market.

The iLook™ online quality measuring system, launched by the Services segment, gives feedback online and thus

improves the end product quality and improves the production capacity. The Vortex Pro™ convection system also enables improved production capacity and higher quality glass production.

### **Cooperation in product development**

Glaston engages in product development in close cooperation with both its customers and its many partners, including research institutions, colleges and universities of technology.

In September 2010, Glaston signed a cooperation agreement with Finnish Beneq Oy concerning the development of production technology for thin-film-coated solar panel glass. The first result of their collaboration, the Beneq-Glaston TFC 2000™ series was presented at the Glasstec fair in 2010.

### **Customer needs as the starting point in development**

Glaston strives to improve its competitiveness by developing more efficient technology that corresponds to changing customer and market needs. As the customers' operating environment change, the requirements imposed on production technology increases. Materials and energy constitute the most significant production costs for customers, so by reducing material waste and energy consumption, customers can reduce production costs. In addition to these development areas, machine capacity, flexibility, usability, and particularly the high quality of the end product are significant factors in glass processing production.


Increasingly strict requirements concerning quality and versatility are imposed on customers' end products. Production machinery must indeed be suited for the production of larger, thinner and more demanding glass products. Production must also be adaptable to the manufacture of different types of glass, and the level of automation is rapidly increasing.

The needs of glass end users also differ. Some of the most significant trends in the construction industry are the increased use of larger glass sizes and energy-saving Low-E glass. In terms of solar power, the central goals from the perspective of glass processing machines concern efficient technology. There are no standards for technology yet in the industry, so Glaston plays a significant role in this development.

### **Leading the way in technology**

Glaston is the leading technology supplier in glass tempering and bending, with a very strong patent position, covering some 100 patent families and over 500 patents. The glass processing industry has traditionally respected patent rights, but their supervision is also important. In late 2010, Glaston won a major trial related to a dispute over the violation of two of Glaston's patents. These patents concern the unique tempering and bending technology developed by Glaston.

In order to strengthen its competitiveness through product development, Glaston also strives to reduce the production costs of its products through the design of its components and development of production methods. Glaston's products are perceived to be of top quality, and in order to ensure this quality, a certified quality and environmental system is in place in Finland, Italy and China. Sub-contractors' and suppliers' operations are also audited carefully.



By improving  
the energy-efficiency  
of buildings, energy  
savings of up to

**30 %**  
can be generated.



# More energy-efficient solutions

As a leading technology supplier in its industry, Glaston aims to promote sustainable development both through the solutions it offers to customers and through its own operations. Glaston's own production operations cause a very limited environmental burden, and further measures are constantly taken to decrease it. Energy consumption generates the biggest environmental impact of Glaston's operations. From an environmental perspective, the most significant factors are indeed the energy-efficiency of Glaston's machines and the impact of the produced glass on energy consumption and production.

Glaston has been developing the energy-efficiency of its products for years and its technologies are progressive in terms of energy use. In addition to using energy-efficient glass processing machines, customers can reduce their energy consumption by using Glaston's services and software that improve the efficiency of production processes. More energy-efficient production is a more profitable, cleaner solution as energy prices increase. Saving energy decreases the harmful effects of energy production as well as CO<sub>2</sub> emissions.

## Energy-efficient technology

As Glaston's glass processing machines have a long life cycle, the efficiency impact during the entire life cycle is significant from an environmental perspective. Glass processing machines are designed and made to withstand continuous use at high production capacity. Regular maintenance intervals increase the products' life cycle and safety. Modernizing machines with new technology also lengthens their life cycle and reduces energy consumption in glass processing.

Glaston pays particular attention to the recyclability of the machines' materials, especially that of wear and tear components that must be replaced often.

## The use of energy glass slows down climate change

Heating and cooling in buildings account for approximately half of the world's energy consumption. By improving the energy-efficiency of buildings, energy savings of up to 30% can be generated. The glass industry has actively developed products that considerably reduce the need for heating and cooling. Energy-saving glass reflects thermal radiation back inside the building to a great extent, whereas solar protection glass reduces the penetration rate of solar energy, thus also reducing the need for cooling.

The biggest potential for reducing energy consumption lies in the modernization of existing buildings. Replacing one old window with energy glass reduces the CO<sub>2</sub> emissions from heating and cooling by approximately 90 kilograms per year, as the CO<sub>2</sub> emissions resulting from the manufacture of an individual window are only approximately 25 kilograms. Rising energy prices and tightening legislation are paving the way towards the use of energy glass in new construction and renovation projects. Glaston's machines are also suited for the manufacture of advanced types of energy glass, and finding the best solutions for the production of these glasses is a focal point in Glaston's product development.

## Cleaner energy from solar panels

As the world's population increases, the need for energy is predicted to almost double, and currently known oil reserves are expected to run dry by 2050. At the same time, the reduction of CO<sub>2</sub> emissions, necessary for the fight against climate change, requires the partial replacement of fossil fuels with renewable energy sources, such as solar power. At present, solar power only accounts for approximately 1% of the world's energy needs. Government subsidies have been aimed at increasing the production of solar power, which is estimated to increase considerably over the next few decades.

Glaston has solid expertise in production technology, software and services concerning special glass types needed in the production of solar energy. These glass types are used in solar cells and collectors. Glass types used in the production of solar power must be highly bendable and of high optic quality. Glaston is actively developing more efficient production technologies for the production of solar power glass.



## Competent and committed personnel

Developing and harmonizing the global human resource processes continued throughout year 2010 according to the set plan. Development focus was on reward and recognition practices, talent management, defining Glaston's values and enhancing selected key competences. At the end of 2010 Glaston had 957 employees.

### Personnel development

Supporting sales personnel continued through product trainings covering the full Glaston offering and focusing especially on new products, like iControl™ and iLook™ and the new flat tempering offering. In a similar manner, service and installation trainings focused on the newly launched products. In addition, a learning program for developing product management competences was designed and the learning activities will be launched in 2011. On an overall level, the competence development activities were directed towards a more regional mode for being able to focus more on specific local topics.

Glaston also introduced a new global annual talent management process, which analyses the organization and identifies the organization's key roles and competences. This process ensures functionality of the organization and sustainable resourcing – having the right competences and committed people, especially in key roles, now and in the future. Analysis and the planning phase of this process was completed at the end of the year and in 2011 Glaston management and HR will kick-off the consequent actions.

### Glaston Way

To develop and unify Glaston's organization and its working culture, an initiative to discover and define common values for the whole corporation globally was launched. Several employee workshops were held for gathering employees' insight on what the Glaston Way should be. All Glaston employees had a chance to give their input and over 300 employees participated in the workshops. The feedback from the workshops was very unanimous and therefore the final decision on the Glaston Way was easy to make for Glaston's top management. Taking the Glaston Way into use started in the latter part of year 2010 and continues in 2011.

### Glaston Way, the driving force for how we operate, is:

#### Passion for glass

- We are enthusiastic about glass and explore the vast opportunities of the glass business.
- We listen and understand customer needs – Customer 1st. We actively learn and create new solutions to help customers make better business.
- We enjoy and take pride in our work. We believe in the things we do.

#### Seeing it through

- We take ownership. We do what we promise with a sense of urgency.
- As a reliable partner we take care of our customers.
- We work together in a transparent, open and constructive way.

#### One Glaston

- We work together to meet common goals for the benefit of the whole company.
- We openly deal between colleagues. When issues arise, we address and solve them constructively.
- Together we celebrate and are proud of our successes.
- We trust and respect our colleagues, also our diversity.

### Building the future

- We work for a safe, green and visual environment. Everything we do builds a sustainable and profitable future.
- We work to add value to glass, our products, customers and shareholders.
- We believe in continuous learning. Everybody's contribution counts.

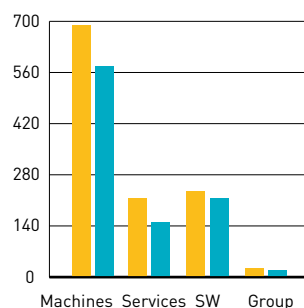
### Pay for performance and future potential

Glaston continued to develop reward & recognition practices in 2010 by defining a pay philosophy and by aligning rewarding with the company's values and strategic objectives. Recognition and reward plays an important role in at-

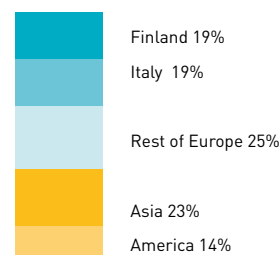
tracting, retaining and motivating employees and it is one of the biggest levers in performance management. A lot of effort has been put into communicating and educating rewarding principles. Transparency is also an important element of compensation at Glaston.

Glaston has a Total Compensation approach, which means that all aspects of compensation are considered as a whole. This includes base salary, short term incentives, long term incentives and all other benefits. Other aspects of rewarding, such as learning and career opportunities are also taken into account.

### Personnel at the year-end



### Personnel by geographical areas



# Board of Directors



**Andreas Tallberg**, b. 1963  
M.Sc. (Econ.)  
Chairman of the Board since 2007  
Independent of the company.  
Chairman of the Board of GWS Trade Oy and MD of Oy G.W.Sohlberg Ab, both significant shareholders of the company.

Share ownership at 31.12.2010:  
no shares

Main occupation: Oy G.W. Sohlberg Ab, Managing Director since 2007

Primary work experience: EQT, Senior Partner, 1997–2006  
MacAndrew & Forbes, International President, 1992–1995  
Amer Group, Director, Business Development, 1987–1991

**Christer Sumelius**, b. 1946  
M.Sc. (Econ.)  
Deputy Chairman of the Board, member since 1995  
Dependent of the company, independent of significant shareholders

Share ownership at 31.12.2010:  
2,624,200 shares including also shares of related parties

Main occupation: Chairman of the Board, Oy Investsum Ab since 1984

Primary work experience: Managing Director, Se-Center Oy, 1987–2007  
Director, Graphex GmbH, 1979–1988  
Chairman, Pyramid Advertising Co. Ltd. (Lagos), 1983–1985  
Managing Director, Pyramid Paper Products Ltd. (Lagos), 1982–1984  
Director, Pyramid Inks Manufacturing Co. Ltd. Lagos, 1981–1985  
Area representative, Finnmap (Singapore), 1980–1981



**Klaus Cawén**, b. 1957  
Master of Laws (LL.M.),  
Independent of the company and significant shareholders  
Member of the board since 2004

Share ownership at 31.12.2010:  
6,000 shares

Main occupation: M&A and Strategic Alliances, Russia, Legal Affairs, KONE Corporation, Member of the Executive Board since 1991

Primary work experience: KONE Corporation since 1983  
General Counsel of KONE Corporation 1991–2001

**Carl-Johan Rosenbröijer**, b. 1964  
Dr.Sc. (Econ.)  
Member of the board since 1996  
Dependent of the company, independent of significant shareholders

Share ownership at 31.12.2010:  
12,600 shares

Main occupation: Senior teacher, Arcada, University of Applied Sciences since 2003

Primary work experience: Swedish School of Economics and Business Administration, teacher and researcher, 1990–2001  
Oulu University, Teacher, 2001–2003  
Head Consulting Oy, Senior Consultant, 2001–2003



**Claus von Bonsdorff**, b. 1967  
M.Sc.(Econ.), M.Sc. (Eng.)  
Independent of the company and significant shareholders  
Member of the board since 2006

Share ownership at 31.12.2010:  
122,600 shares

Main occupation: Head of strategy, business development and marketing, Nokia Siemens Networks, Customer Operations, since 2007

Primary work experience: Nokia plc, expert and management positions, 1994–2007  
Nokia Siemens Networks, management positions, since 2007

**Jan Lång**, b. 1957  
M.Sc. (Econ.)  
Independent of the company and significant shareholders  
Member of the board since 2008

Share ownership at 31.12.2010:  
no shares

Main occupation: Ahlstrom Corporation, President and CEO, 2008–

Primary work experience: President and CEO, Uponor Corporation, 2003–2008.  
Various management positions at Huhtamäki Group during 1982–2003



**Teuvo Salminen**, b. 1954  
M.Sc. (Econ.), APA  
Independent of the company and significant shareholders  
Member of the board since 2010

Share ownership at 31.12.2010:  
no shares

Main occupation: CapMan Plc Advisor, 2010

Primary work experience: Pöyry Plc 1985–2010: Senior Advisor, 2010  
Group Executive Vice President, Deputy to President & CEO, 1999–2009  
Head of Infrastructure & Environment business group, 1998–2000  
Head of Construction business group, 1997–1998  
CFO, 1988–1999



# Executive Management Group



**Arto Metsänen**, b. 1956  
President & CEO  
M.Sc. (Mining Engineering and Mineral Processing)  
Employed by Glaston and chairman of the Executive Management Group since 2009

Share ownership at 31.12.2010:  
50,000 shares

Primary working experience: President and CEO, CPS Colour Group, 2005–2009  
President and CEO, Consolis Oy, 2005  
President, Sandvik Tamrock Oy, 2003–2005  
President, Sandvik Mining and Construction, U.S. and Mexico, 2002–2003  
President, Sandvik Mining and Construction, Southern Europe and the Middle East, 1998–2002

**Topi Saarenhovi**, b. 1967  
Senior Vice President, Machines  
M.Sc. (Eng.)  
Employed by Glaston and Member of the Executive Management Group from 2007 to 31 January 2011

Share ownership at 31.12.2010:  
8,225 shares

Primary work experience:  
President & CEO, Amomatic Oy 2004–2007  
Vice President, Amomatic Oy 2003–2004  
Plant Manager, Wärtsilä Plc, Turku 2002–2003  
Production Management Positions, Wärtsilä Plc, Turku 1996–2001



**Günter Befort**, b. 1954  
Senior Vice President, Software Solutions  
B.Sc. (Eng.)  
Employed by Glaston and member of the Executive Management Group since 2007

Share ownership at 31.12.2010:  
no shares

Primary working experience: more than 35 years in the glass industry, of which last 20 at Albat+Wirsam

**Tapio Engström**, b. 1963  
CFO  
M.Sc. (Econ.)  
Employed by Glaston and member of the Executive Management Group since 1 July 2010

Share ownership at 31.12.2010:  
no shares

Primary working experience: CFO, CPS Color Holding Oy, 2009–2010  
Director, Business Development, Vaisala Oyj, 2007–2008  
CFO, Aspocomp Group Oyj, 2006–2007  
CFO, Vaisala Oyj, 2002–2006  
Regional Finance Manager, North America, Vaisala Inc, 2000–2002  
Andritz Oy, Business Controller, Service, 1998–2000  
Asko Kodinkone Oy, Finance Manager 1994–1998  
Tunturipyörä Oy, Financial Management Positions 1990–1994



**Juha Liettyä**, b. 1958  
Senior Vice President, Services  
B.Sc. (Eng.)  
Employed by Glaston since 1986, member of the Executive Management Group since 2007

Share ownership at 31.12.2010:  
no shares

Primary working experience: Glaston Corporation Director, Quality and Business Development 2008–2009  
Vice President, Technology, Kyro Corporation, 2003–2007  
Managing Director, Tamglass Engineering Ltd. Oy, 1999–2003  
Management positions, Tamglass Ltd. Oy, 1991–2003  
Vice President, Service, Tamglass Engineering Oy, 1989–1991  
Project Engineer, Tamglass Engineering Oy, 1986–1989  
Design and Project Engineer, Insinööritoimisto Kupari Oy, 1984–1986

**Frank Chengdong Zhang**, b. 1968  
General Manager, Asia  
EMBA  
Employed by Glaston since 2008 and member of the Executive Management Group since 2010.

Share ownership at 31.12.2010:  
no shares

Primary working experience: Product Group Manager, GE Motors & Fixtures, GE Lighting Asia, 2002–2008  
Marketing Development Manager, GE Motors & Fixtures, Asia, 1999–2002  
Sales Manager, GE Motors & Fixtures, Asia, 1997–1999  
Market Developer, GE Motors & Fixtures, Asia 1994–1997  
Product Manager, Shanghai Ship and Shipping Institute



**Tapani Lankinen**, b. 1968  
Senior Vice President, Human Resources  
MA  
Employed by Glaston and member of the Executive Management Group since October 2010

Share ownership at 31.12.2010:  
no shares

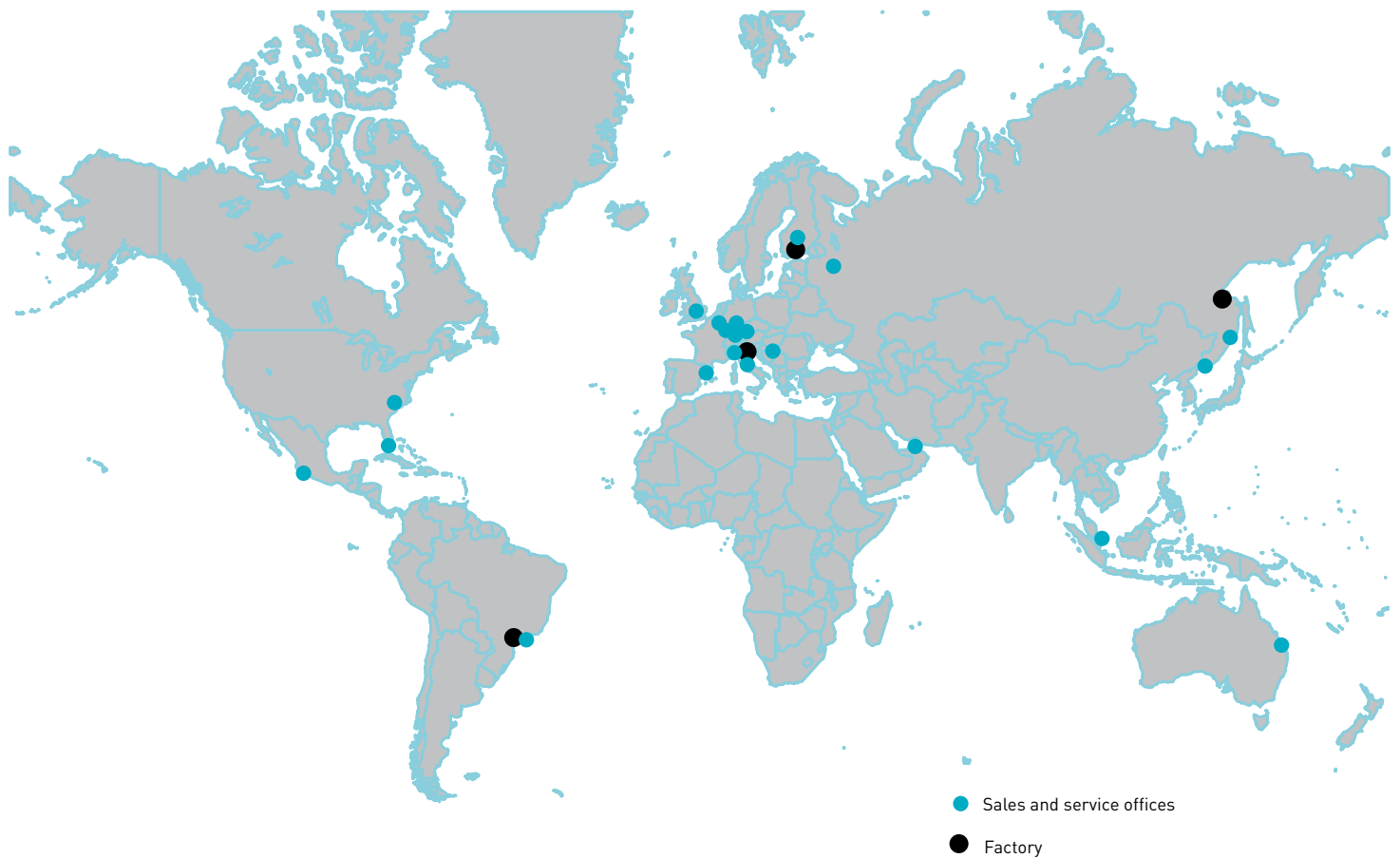
Primary working experience: Vice President, Human Resources, EMEA, Cargotec Corporation, 2008–2010  
Head of HRD, MEA, Nokia Siemens Networks, 2007–2008  
HR Management positions, Nokia Corporation, 2004–2007  
Human Resources Consultant, Mercuri Urval, 1998–2004

**Pekka Huuhka**, b. 1956  
Senior Vice President, Supply Chain  
M.Sc. (Eng.)  
Employed by Glaston and member of the Executive Management Group since August 2010

Share ownership at 31.12.2010:  
no shares

Primary working experience: Managing Partner, Swot Consulting Finland Ltd. Oy, 1998–2010  
President, Tamrock Region Europe, Germany, 1993–1998  
Product Management, Tamrock Corp., 1991–1993  
Manufacturing Management positions, Tamrock Corp., 1991–1993

# Locations



Glaston Corporation  
Vehmaistenkatu 5  
P.O. Box 25  
FI-33731 Tampere  
Finland  
Tel.+358 10 500 500  
Fax +358 10 500 6190  
[info@glaston.net](mailto:info@glaston.net)  
[www.glaston.net](http://www.glaston.net)