

Sustainability is a major part of the corporate strategy and business model of Belimo. Various stakeholder groups are taken into consideration in order to optimize sustainability objectives.

Belimo considers the aim of sustainability to not only be to minimize the negative impact of business processes, but also to increase the positive effects of application. The products manufactured by Belimo facilitate application solutions that create measurable benefits to sustainability. For example, this means saving energy when operating heating, ventilation and air conditioning systems in buildings. The effect of these benefits in practice are shown in the example of the American agricultural cooperative Land O'Lakes on pages 43 to 47.

The products manufactured by Belimo facilitate application solutions that make a measurable contribution to sustainability.

The sustainability of the Belimo Group is oriented towards multiple stakeholder groups, with the aim of creating as much added value for all these groups as possible. Unilateral fulfillment of the interests of one stakeholder group, e.g. shareholders or customers, shall not be at the expense of another stakeholder group, e.g. employees or suppliers. Belimo achieves attractive and sustainable returns for shareholders. Customers appreciate the reliable and innovative application solutions and high product quality. Further strengths include consulting and service expertise throughout all customer relationship phases and partnership interactions with suppliers and consultants. Social commitments also show how Belimo implements corporate responsibility in practice.



WE SUPPORT

UN GLOBAL COMPACT

Belimo has been a member of the UN Global Compact since 2013 and is committed to environmental protection, responsible working practices, human rights and protection against corruption. The United Nations Global Compact is the largest international initiative for responsible company management. Over 13 000 companies and organizations across 170 countries have already joined the initiative.

Ecological Awareness

Products and Applications

Sustainability in the Development Process

Environmental responsibility at Belimo already starts with product design. The focus falls on a sustainable and eco-efficient product development process that takes account of the entire useful life. This means minimized power consumption and the conservation of resources, minimized environmental impact at disposal, the use of materials that generate low emissions in the case of fire and the extension of the useful life by applying state-of-the-art technologies. The optimization of current products leads to some considerable savings of material and energy during the production process.

Customers are involved in the development process at an early stage in order to jointly search for innovative solutions and verify ideas that promise success.

At Belimo, the focus falls on a sustainable and eco-efficient product development process that takes account of the entire product life cycle.

Innovative Application Solutions

Belimo guarantees its customers superior solutions with products that offer more comfort, increased energy efficiency and safety, and are easier to install and maintain.

The optimized operation of HVAC plants is ensured thanks to the following features:

- Minimized power consumption by Belimo actuators for all applications
- Preventing circulation losses thanks to bubble-tight characterized control valve technology in water applications. Belimo highlighted its outstanding competence in this area once again in the reporting year at the Innovation Contest held by Lucerne University of Applied Sciences and Art on the subject of zone valve tightness
- Increasing plant efficiency by making smart use of actuator and sensor technology, such as in the Belimo Energy Valve™ and the ZIP Economizer™

- Easier maintenance and automatic operation optimization through Cloud connections. The newest version of the Energy Valve™ can also measure the glycol content of the heat transfer fluid for frost protection
- Simplified installation of actuators for variable air volume (VAV), thanks to preconfiguration in the Belimo Cloud and subsequent commissioning using a smartphone

Also in 2017, 6.3 million newly installed Belimo actuators helped customers become more energy-efficient, making savings many times higher than the annual electricity consumption of Belimo at its two largest production sites. The following credentials provide tangible evidence of how innovative application solutions have made plants more efficient.

Further Developing Building Technology

Buildings are responsible for some 40 percent of energy consumption and climate-damaging CO₂ emissions. There is vast potential for savings, which has encouraged legislators around the world to revise the standards and laws that govern the quality of indoor air and the efficiency of heating, ventilation and air conditioning plants. Belimo actively participates to shape these changes and constantly further develops building technology. The Company is an active member of numerous industry associations including REHVA (Federation of European Heating, Ventilation and Air Conditioning Associations) and ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers). These organizations are geared toward developing sustainable, energy-efficient building technology as well as corresponding standards.

Internal Processes and Standards

Environmental Directives

The Belimo sites in Hinwil (Switzerland), Danbury (USA), and Sparks (USA) apply the international environmental management standard ISO 14001 and undergo regular audits by the Swiss Association for Quality and Management Systems (SQS).

Belimo also adheres to the RoHS II environmental directive, which prohibits the use of substances that are harmful to the environment. Compliance is implemented on the basis of a list of banned substances, which is aligned to products and their areas of application. Suppliers also undertake not to use any of the banned substances in the parts they deliver.

Materials

The materials used are carefully selected to ensure that as little damage as possible is caused to the environment. Auxiliary materials such as solvents, resins, paints or lead are not used at all, or only in very small quantities.

Cardboard packaging from suppliers based in the European Union is produced in accordance with the Recycling Symbols (RESY) guidelines and the one from suppliers based in the United States in accordance with equivalent principles, meaning that all transport packaging consists of ecologically harmless materials and can be recycled. The consistent use of reusable cardboard packaging between the Belimo sites and suppliers saves on packaging materials. Once they have served their purpose they are recycled.

Procurement

More than 85 percent of product manufacturing costs at Belimo are incurred by a network of suppliers and partners. They make a major contribution to quality, innovative capacity and sustainability. When it comes to environmental and social standards, the Belimo Group is as demanding on its suppliers as it is on its own internal service providers. The suppliers are involved in the environmental and quality policy of Belimo.

Belimo expects its suppliers to make a clear commitment to sustainability principles. These requirements are set out in the code of conduct for suppliers and reflect the content of internal guidelines. The code of conduct has been signed by more than 300 suppliers, which equates to around 90 percent of the procurement volume. Both new and existing suppliers are regularly audited on-site.

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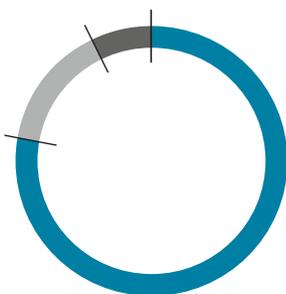
Production and Logistics

The transfer of knowledge and technology between production locations ensures safe, efficient and resource-saving production processes. In all markets, the final assembly of the valve-actuator combinations takes place on-site. Any components that need to be bought in are delivered by the suppliers to customization centers either directly or in collective shipments, where they are assembled on-site, shortening the transport routes to customers.

Environmental issues are given high priority in the regular review and adjustment of logistics processes. Transport mileage is reduced by means of internal collective shipments within the Company and consolidated direct deliveries to customers. The share of energy-intensive air freight is minimized on an ongoing basis. Standardized reusable packages are increasingly being used for deliveries between Belimo sites, allowing for automatic storage or further processing without having to be repacked.

PROCUREMENT BY REGION

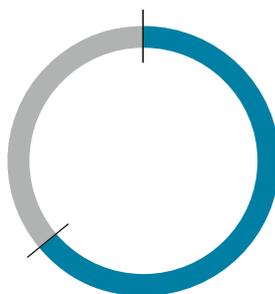
in %



- 78 EUROPE
- 15 ASIA PACIFIC
- 7 AMERICAS

WASTE MANAGEMENT

in %



- 64 RECYCLING
- 36 DISPOSAL

Recycling and Disposal

Waste is sent for recycling whenever possible. It is properly sorted and recycled at internal collection points, allowing more than half of the waste produced to be recycled. In Hinwil, the remaining waste is sent to the nearby waste incineration. Disposal transportation is consolidated.

Energy-Efficient Premises

The office, production and logistics facilities in Hinwil are heated from the nearby waste incineration plant, which is connected to the district heating network.

The premises in Hinwil are continually reviewed and technically modernized for comfort and energy efficiency. For example, the new training and show room in the old main building in Hinwil and the Europe group division office premises have been completely renovated. This includes the installation of Belimo Energy Valves™, zone valves and VAV solutions for the management of water and air flows. The site is gradually switching its lighting over to energy-saving LEDs. An analysis program evaluates environmental and facility data, providing the basis for optimization measures. Eight charging points for electric cars are available at

the main building. The Company has invested in a new photovoltaic system at the Hinwil site, covering a total area of 176 square meters.

The building and logistics expansion in Hinwil was built to meet the latest energy-saving criteria. All storage and retrieval equipment in the automated warehouse and all goods lifts feature energy recovery systems. The internal logistics conveyor belts are all individually controlled and shut down directly after transportation. All new buildings were heavily insulated and buildings below ground water level were balanced at the right temperature by the ground water flow. The warehouse uses energy-saving night cool-down.

The production, logistics and administration building in Danbury has been certified in compliance with the LEED gold standard for sustainable construction.



Key figures 2013–2017

Locations Hinwil (Switzerland) and Danbury, CT (USA)

	Unit	2017	2016	2015	2014	2013
Environmental indicators						
Number of actuators produced	in million items	6.3	5.9	5.6	5.5	5.1
Utilization						
Paper (A4, A3 sheet) only office						
Copiers, printers	kg per FTE	8.0	11.9	13.8	15.4	12.8
Buildings and total energy consumption						
Electricity	MWh	6 984	7 011	7 360*	5 312*	4 782
Heat energy						
District heating (Hinwil)	MWh	1 306	1 295	1 154	814	1 191
Gas (Danbury)	MWh	1 326	1 464	2 870*	1 547*	973
Water	m³	7 578	9 378	6 930**	8 682	8 647
Recycling and disposal						
Waste for recycling	t	528	498	458	452	340
Waste for incineration	t	224	226	190	165	145
Remaining waste	t	70	64	87	92	65
Hazardous waste (electronics, separated materials)	t	2	2		1	37
Waste water	m³	7 007	8 892	6 490**	8 682	8 647

* Double occupancy because of the new buildings (logistics expansion Hinwil; production, logistics and administration building Danbury).

** Water usage for the fire line testing in Danbury as of 2015 not included anymore.

Knowing where the energy goes



Based in Arden Hills, Minnesota (USA), Land O'Lakes, Inc., is one of the world's largest agricultural cooperatives with over 300 000 agricultural producers in over 60 countries.

Land O'Lakes, Inc., Arden Hills, Minnesota, was founded in 1921 and is in the agribusiness industry. Today, it is one of America's leading member-owned cooperatives. It has 3 200 direct producer-members and 1 000 member-cooperatives that combine to serve more than 300 000 agricultural producers in more than 60 countries worldwide. Since its inception, Land O'Lakes, Inc., has been committed to environmental stewardship – leveraging sound science and state-of-the-art technologies to improve sustainability and conserve natural resources in its many operations across the globe.
→ www.landolakesinc.com



When the cooperative was founded in 1921, the farmers committed to environmental protection and to preserve natural resources sustainably. Land O'Lakes has been following this philosophy ever since throughout all its business operations. Its commitment ranges from internal recycling initiatives to public and private partnerships and energy-efficient operation of production and office buildings. The sustainability concepts are managed by the internal Corporate Sustainability Group, which also initiated the modernization of the heating, ventilation and air conditioning (HVAC) systems at corporate headquarters in Arden Hills, Minnesota (USA), in 2015.

High energy costs and considerable losses in room comfort

In the buildings at corporate headquarters, it was no longer possible to reach the desired low supply temperatures, based on maximum cooling demands and the required level of pump performance. This was due to the 25-year-old technology. Alongside the out-of-date chillers, another problem was discovered of the air coolers in the air handling units – the water temperature difference (Delta T) between supply and return was generally lower than as required in specifications. In addition to rising electricity costs caused by inefficient pumping, this also led to insufficient heat transfer in the air cooler and therefore considerable losses in room comfort in the building.

The stated objective was to significantly reduce system energy consumption by making the circulating pumps more effective and to therefore achieve a higher level of room comfort in buildings for employees.



Belimo Energy Valve™

This control valve continuously optimizes the water flow and automatically adjusts it to current climatic conditions. Today, thousands of these smart valves help to reduce the operating costs in buildings and CO₂ emissions.

Belimo Energy Valve™ – reduced building energy consumption by around 15 percent

After an intensive energy technology review, Land O'Lakes decided to install new chillers and convert its six air handling units using Belimo Energy Valves™. The diagnostic capabilities of the Belimo Energy Valve™ enables to take a precise look at cooling system operations at any time and, in particular, to monitor the specific performance of each individual air handling unit. Building maintenance can then use the designed Delta T manager, a function integrated into the valve software, to ensure compliance with the designed temperature difference. The actual valve data is also used to operate the pumps with variable control at the lowest differential pressure, without impairing the cooling performance required for the air handling units at peak times.

This means that the desired low supply air temperatures can be reached in hot summer months again, as well as achieving energy savings of 15 percent thanks to reduced pump performance.

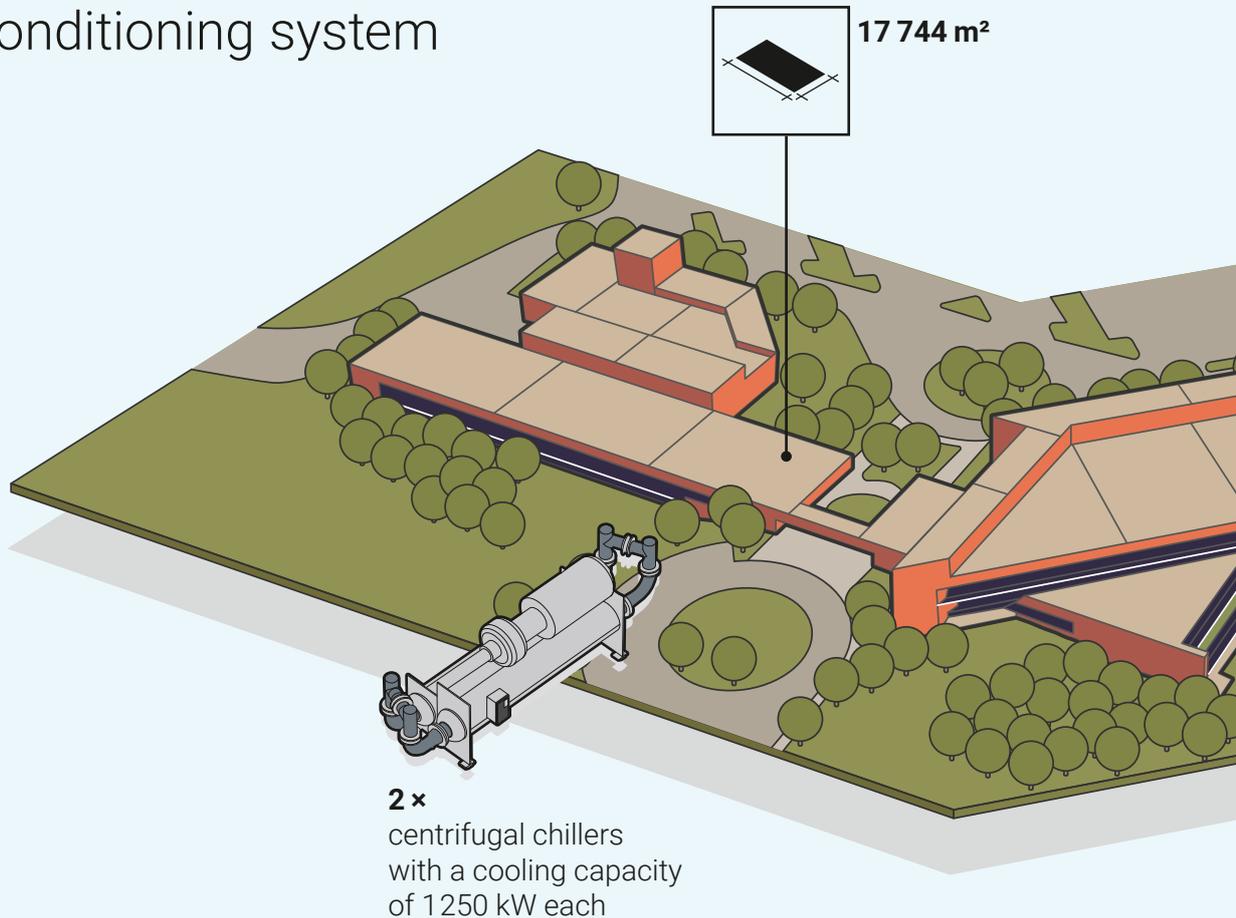


“The installation of Belimo Energy Valves™ was a great jump-start to our sustainability efforts, as only the combination of this valve type and our water-cooled chillers is increasing the cooling performance and efficiency of our chilled water system in a sustainable way.”

Joshua Kline, Lead Mechanical Engineer
at Land O'Lakes, Inc.

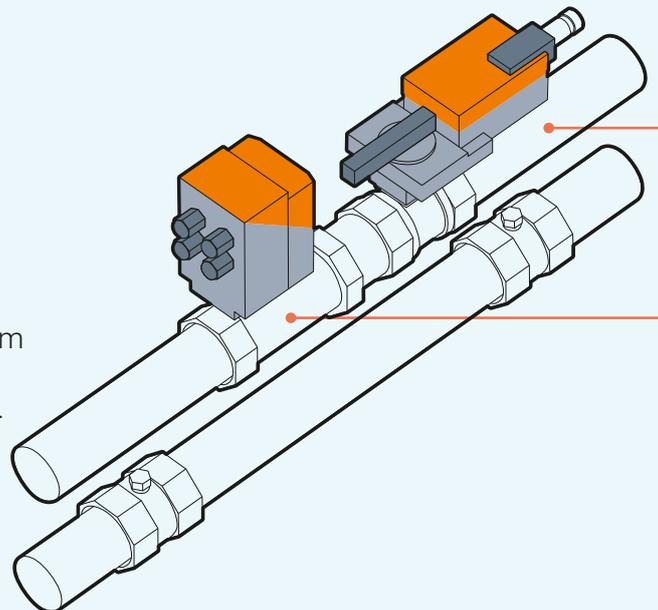
Land O'Lakes – Targeted Sustainability Initiative

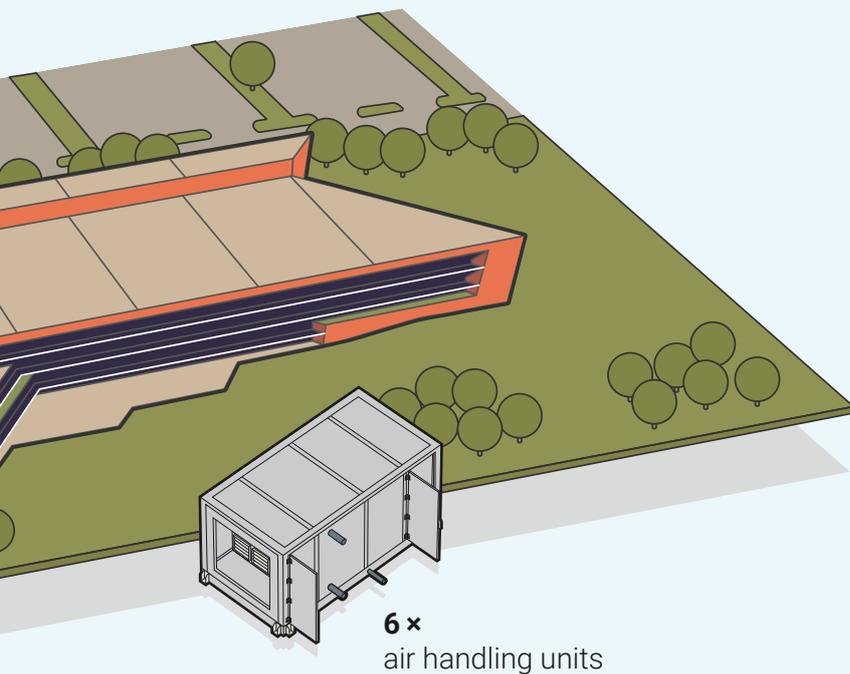
Modernization of heating, ventilation
and air conditioning system



Belimo Energy Valve™

Enhanced pump capacity:
the amount of water that has been
pumped through the circulatory system
was reduced by 23.5 million liters
compared to the previous-year period.





6 x
air handling units



Energy monitoring
via Belimo Cloud

-15%

15% energy
savings

LAND O'LAKES RELIES ON BELIMO

Two new centrifugal chillers, each with a cooling capacity of 1250 kilowatts, were installed at Land O'Lakes, Inc., headquarters in 2015. In order to make the HVAC system for a total building floor area of 17 744 square meters as energy-efficient and sustainable as possible when interacting with these high-performance chillers, the out-of-date pneumatic 3-way valves in each of the 6 air handling units were also replaced with pressure-independent 2-way Belimo Energy Valves™. These now allow permanent measurement of supply and return temperatures and volumetric flow, carry out automated hydronic balancing based on these measurements and therefore efficiently control the actual volumetric flow required and the optimum pump performance in the system. Building maintenance can then use the Delta T manager, a function integrated into the valve software, to ensure compliance with a defined temperature difference. The valve data analyzed after conversion of the HVAC system show that the pumps have to supply around 23.5 million liters less water into the HVAC circulatory system in comparison to the same period in the previous year. The Delta T between flow and return has also been brought back towards the intended specified values, ensuring optimum heat transfer and a considerably higher level of effectiveness for the cooling water system in general. The work was carried out by NAC Mechanical and Electrical Services, a Belimo Platinum Contractor.

Social Responsibility

Corporate Culture

Values

The mission statement and code of conduct contain the principles for internal cooperation, conduct at the workplace and interaction with customers, suppliers, competitors and other stakeholders. The values of trust and credibility also mean that employees get in touch with the appropriate contact person in the event of perceived violations of the applicable laws or ethical standards.

New employees learn about the values and quality standards during their introduction to the Company. The individual employee's long-term ability to internalize and put those values into practice is also part of the annual employee appraisal.

Society

The success at Belimo is only possible thanks to the engagement of its employees. Our workforce encompasses over 100 different nationalities and a wide range of different cultures. We are particularly proud of our colleagues with disabilities, who achieve outstanding performance every day and support our manufacturing processes despite difficult conditions. They include members of the Swiss residential and employment center for people with restricted mobility (IWAZ, Switzerland), Sonnhalde in the Zurcher Oberland region (Switzerland) and Ability Beyond in Danbury, CT (USA). Our many years of cooperation with these organizations are a fixed part of corporate culture at Belimo, offering work to over 100 people; components for actuators, valves and sensors are manufactured for Belimo. The production division in Hinwil has been running an additional pilot project with IWAZ employees since January 2017. The IWAZ employees assemble, check and package actuators on an assembly line.

The success at Belimo is only possible thanks to the engagement of our employees: with various nationalities, from different cultures and a broad range of capabilities and expertise.

Belimo is now also sponsoring Sandra Stöckli as an ambassador for all people with disabilities. The inspiring para-cycling athlete from Jona (Switzerland) shows that anything can be achieved even under the most difficult conditions. She is a handcyclist and successfully participated in the Paralympics in Rio de Janeiro in 2016. She finished fifth in the Berlin Marathon in September 2017.

Belimo conducts yearly visiting days for children of employees at its sites around the world. The daughters and sons accompany their parents for a whole day and get some insight of their working.

Sustainable Personnel Policy

Employees

Belimo values cultural diversity and assists employees from other countries with their integration, for example by providing free lessons in the local language. The high average length of service of eight years underlines the extent of employee loyalty and their identification with the Company. The part-time working models offered are equally valued by employees and the Company itself. In Hinwil, around 30 percent of the employees have chosen this model.

Belimo works at all levels with a performance and behavioral appraisal system. This includes regular assessments of individual goal achievement, as well as a discussion of appraisals and the corresponding measures to be introduced with employees. A central review of equal pay between women and men has confirmed that there are no significant differences and equal pay is ensured at Belimo.

A competence analysis is carried out every two years for employees at higher levels in the Company hierarchy. This is based on the Belimo competence model and supports individual development planning. The remuneration system allows employees to participate in the Company's success.

Employee Survey

The fourth worldwide employee survey in 2017 confirmed the pleasing results from 2014, indicating a very high level of engagement. Detailed results will be analyzed by the individual teams around the world and used to implement corresponding actions. Belimo is also a popular employer in comparison to other companies.

BELIMO Automation AG, Hinwil, reached an outstanding 4th place at the Swiss Employer Award 2017.

BELIMO Automation AG, Hinwil, was announced as one of the best employers in Switzerland at the Swiss Employer Award 2017, reaching an outstanding 4th place in the category "Medium-Sized Companies". The award was based on employee ratings. They were asked questions anonymously on central workplace subjects such as job content, structures and procedures, collaboration, Executive Committee, dealing with changes, management by superiors, employee promotion and remuneration. The benchmarking study on which the Swiss Employer Award is based has become a pioneering tool for Swiss companies. The study is run by the Swiss Employers' Association (SAV), the Swiss Association for Human Resources Management (HR Swiss), the business magazine Bilanz and the icommit Institute in Küsnacht (Zurich), which carries out and assesses the employee survey.

Training, Personal and Career Development

Belimo helps employees develop their specialist knowledge. Thorough introduction programs ensure that new recruits are fully familiarized with their tasks and responsibilities and the corporate culture. An internal training program enables knowledge and skills to be kept constantly aligned with responsibilities. Employees' personal development is supported. Time spent abroad at one of the Company's other locations is considered an opportunity for professional and personal development and brings added value for the Company.

Managers around the world regularly complete training courses on leadership issues. For example, all managers go through a 3-day leadership course with the aim of discussing the values and strategies of the Belimo Group and increasing leadership skills. Belimo offers career path planning for both managers and professional specialists.

Promoting New Talent

Together with local schools, Belimo helps young people to choose a profession and provides an insight into everyday working life. The Company provides apprenticeships to 22 trainees in six different professional areas at its Hinwil site.

Belimo also offers two places for apprentices looking to combine their basic vocational training with a career in top-level sport. This requires a flexible education program that fits working hours around their physical training and competitions. Belimo has been recognized by Swiss Olympic as a competitive sports-friendly apprenticeship company.

As part of the promotion of new talent, all apprentices are given a project order each year that they must develop and execute by themselves. All apprentices are involved in this program. The results of this project work are presented at the annual parents' evening. The project order and the organization of the parents' evening are both entirely the responsibility of the apprentices.

Health and Safety

The first aid teams in Hinwil and Danbury are regularly trained in how to handle various medical emergencies. Expanding the logistics facilities in Hinwil has meant changing the escape routes. The setup is tested regularly in surprise evacuation exercises.

Occupational safety and ergonomics also receive ongoing investment and are reviewed on-site involving external consultants.

The program to promote occupational health includes targeted relaxation and strengthening exercises, training in workplace ergonomics and other activities and talks on specific topics.

The new "Belgusto" staff restaurant began operations at the Hinwil site this year. This new staff restaurant ensures that employees receive healthy food choice with fresh ingredients and freshly cooked menus.

