

Annual Report 2017



The ASH Group at a glance

EUR '000	2017		2016	
SALES BY SEGMENTS				
Aebi products	60 433	15.8%	62 574	17.2%
Schmidt products	200 854	52.7%	173 715	47.8%
Meyer/Swenson products	33 688	8.8%	43 565	12.0%
Service and spare parts business	86 324	22.7%	83 266	23.0%
Total net sales	381 299	100.0%	363 120	100.0%
BALANCE SHEET TOTAL				
Current assets	186 631	75.4%	198 717	75.3%
Fixed assets	60 953	24.6%	65 114	24.7%
Total assets	247 584	100.0%	263 831	100.0%
Loan capital	143 010	57.8%	148 591	56.3%
Equity capital (incl. shareholders' loans)	104 574	42.2%	115 240	43.7%
Total liabilities	247 584	100.0%	263 831	100.0%
NUMBER OF EMPLOYEES (FTE)				
Germany	438	28.2%	406	25.6%
Switzerland	240	15.5%	246	05%
Poland	257	16.6%	264	16.7%
Netherlands	216	13.9%	221	14.0%
USA	195	12.6%	234	14.8%
Other	204	13.2%	212	13.4%
Total employees	1 550	100.0%	1 583	100.0%

Sustainable and safe

Whether runways and taxiways at airports, pedestrian walkways, motorways or green spaces in challenging terrain – the areas of application of the ASH Group's products are as diverse as our portfolio: It comprises our own vehicles, attachable and demountable devices for individual vehicle equipment as well as intelligent product systems and customised services. Decades of wide-ranging experience make the ASH Group a both reliable and competent partner to customers from all over the world. A support and service programme perfectly tailored to customer needs offers the appropriate solution to nearly any challenge.

Vision and goals

In 2022, the ASH Group will be the global leader for intelligent product systems and services for the management of mission-critical traffic areas and green spaces. By "intelligent" we mean the control and automation of our machines as well as their interconnection and networking. We aim to offer complete solutions for economical, safe and transparent cleaning and clearing operations, thereby improving our customers' performance capacity and making their work easier. To achieve this goal and ensure our future success, we are striving for growth and efficiency enhancements based on highly qualified staff as well as a lean and powerful organisation.

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Facts & Figures

620 000

PRODUCTION HOURS WORLDWIDE



14

BRANDS – ONE MESSAGE

The ASH Group is an alliance of traditional brands for special-purpose vehicles and attachments that take a leading position in their respective markets and whose technological excellence creates a synergistic effect for enhanced customer value. Combined with reliable services, customers thereby receive optimum solutions of lasting value.

EMPLOYEES BY COUNTRIES

in full-time equivalents



7

COMPETENCE CENTRES AND PRODUCTION FACILITIES

With a total production area of 73 000 m².



70

TRAINEESHIP POSITIONS

Attractive traineeship positions and opportunities for a career start at various locations.



15

SERVICE ORGANISATIONS

Our own service organisations cover the markets in the respective countries.



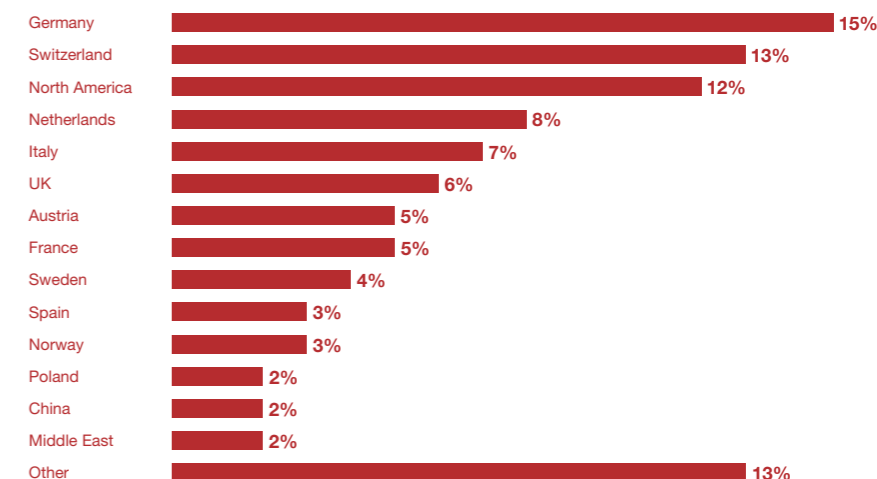
120

SALES PARTNERS WORLDWIDE

Our own sales organisations are complemented by a globally operating distribution network.

SALES BY COUNTRIES

in 2017



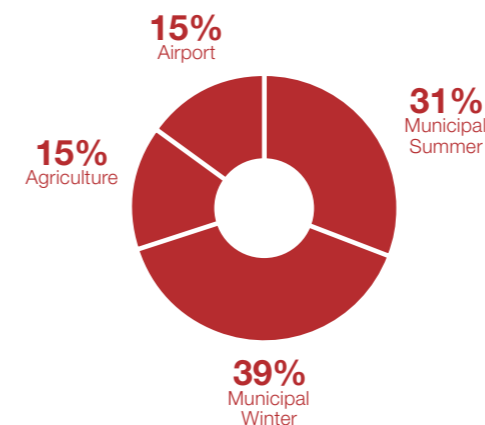
1550

EMPLOYEES IN FULLTIME EQUIVALENTS

We benefit from the comprehensive expertise and the passionate commitment of our employees.

SALES BY AREAS OF APPLICATION

in 2017



EUR

381

MILLION

In the past business year, the ASH Group generated net sales of EUR 381 299 000.



The 2017 Business Year

Sales rose by 5% percent compared to the previous year, generating an increase of a solid EUR 10 million. The European markets contributed substantially to growth, accounting for an increase in sales of EUR 27 million and offsetting lower sales in North America.

The overall market was positive and allowed us to gain territory in important areas: We were able to increase sales in almost all European countries. The markets in Russia and Ukraine are also slowly recovering and showing a positive outlook.

The fact that customers expect increasingly short delivery times needs to be accommodated. In 2017, we restructured our entire organisation. Product management and marketing are now also represented on the Executive Board. This enables us to even better match the needs of the market, sales, distribution, production and development. Since 1 June 2017, the ASH Group has been structured into five divisions:

- Sales Europe & North America
- Global Sales Dealer/Airport
- Product Management/Technology
- Operations Global
- Operation Switzerland

In the U.S., we introduced a new sales organisation consistent with the LSO structure in Europe (Local Sales Organisation), and assembled a new management team. Unfortunately, we had to downsize production staff in the Meyer and Swenson factories due to the poor market conditions. We are now increasingly using the synergies between Meyer and Swenson. Combined with the other measures taken, this already showed a

positive effect during the course of 2017 and enabled us to exceed the budgeted cost savings.

Due to the low number of orders for snow ploughs in Scandinavia, we unfortunately had to close down production in Sundebru, Norway, to be relocated to our existing snow plough production facility in Kielce, Poland. The relocation is planned for the third quarter of 2018 and will also contribute to increasing our efficiency.

To improve and further develop the ASH product portfolio, we invested in research and development and focused primarily on three very exciting projects in 2017: firstly, the development of the first fully electric zero-emission sweeper eSwingo and, secondly, in the airport segment, the multifunctional CJS-DI jet sweeper featuring a de-icer to address the market need for flexible and economical multifunctional machines. The new CJS-DI was presented at the Inter Airport in Munich 2017 and received a very positive response from customers. It is currently being tested at Stuttgart airport. Thirdly, we advanced the U.S. spreaders and equipped them with European software technology to reduce salt consumption – making it one-of-a-kind in the North American market. The resulting product, “Evolution”, will hit the market in early 2018.

In summary, it can be said that we created a strong organisational foundation in 2017 and made the right choices to be successful in the coming years.

Political and social trends

As municipalities and cities are clearly striving to reduce CO₂ emissions and become carbon neutral, there is growing demand for electric compact sweepers. Likewise, SmartCare and driver assistance solutions (automated driving) are also becoming increasingly sought-after, with machine safety and safe operation being an essential factor. In winter maintenance, there is a trend towards using sprayer mixtures that contain less salt and more brine.

I would like to particularly emphasise our successes in the following two areas: The new waste concept marked the final step in the complete implementation of the lean concept at the German St. Blasien factory in 2017; in 2018, we will now be focusing on the factories in Switzerland and the U.S. The new waste concept was also implemented in St. Blasien as part of the Fit-4-Tomorrow project and is planned to be rolled out at all factories in 2018.

We believe that servitisation is the future: a shift from selling products to providing services.

We also improved transparency regarding the performance of our business units and started establishing a culture of results and success in our organisation. It is very important to me that we work closely and productively as a group across both different divisions and different countries.

The future holds exciting challenges for us. As in almost all areas of life, digitisation and automation are a major topic. We devised a digitisation strategy in 2017, giving the topic strategic priority. The digitisation of our products will be directly included in the value proposition, making it an integral part of our offering.

Outlook and strategic priorities in 2018

We are working on improving our sales management process in order to shorten our delivery periods and are also carrying out initiatives to strengthen the after-sales business. Lean production will be implemented at all factories by the end of 2018.

Our sales representatives are expected to serve as problem-solvers with a focus on customer needs, advice and tailored solutions. We believe that servitisation is the future: a shift from selling products to providing services.

Staff development (e.g. technical skills, leadership, sales, culture) is very near and dear to our hearts and we are committed to investing in it in the future. We are also putting a succession plan in place so that any openings can be filled internally whenever possible and large gaps can be avoided during staff reassignments. We want the ASH Group to be known as an attractive, sustainable employer.

European clients from the public sector prefer products that are not over-engineered. But, on the other hand, they also need state-of-the-art technology. That is

why we have started offering our machines in a modular design, meaning we produce a basic version which the customer can have fitted with optional functions, software, demountable equipment and technology. This allows us to meet all relevant market and customer requirements – and customers only pay for what they really need.

Since the new EuroMot 5 exhaust emission standard will take effect on 1 January 2019, we have to complete further engine conversions in 2018. Our new airport jet sweeper, the CJS-DI, is planned to be enhanced with additional options. We are therefore working on concepts for driver assistance and additional SmartCare solutions.

In summary, it can be said that we created a strong organisational foundation in 2017 and made the right choices to be successful in the coming years – with hard work, commitment, enthusiasm and courage.

By the way, what you are holding in your hands is our annual report to contain an integrated sustainability report. This provides you with all relevant information in a single document – and allows us to contribute to saving resources.

I hope you will find these insights informative and have a good time reading!

Barend Fruithof
CEO

Digitisation

Acting intelligently and focusing on the needs of our customers while increasing the efficiency and quality of our products and services – these are the building blocks of our vision and mission for digitisation. The digital future of the ASH Group is based on three pillars: data management system, holistic connectivity and smart platform strategy. Our vision is for our customers and employees to work in the smartest way possible.

By combining all available and relevant data with a sharp focus on the needs of our customers, we make processes more efficient and take them to a new level of quality. In the advancement of our digital value proposition, we are collaborating with forward-looking and innovative external partners.

We think digital and strive for complete customer solutions. This means: integrated concepts and package solutions from one source, such as the technical connection between the new eSwingo and telematics solutions that collect information and make it available to the customer. In addition, we connect the individual machines to each other as well as to our online platform, permitting remote diagnoses and ensuring efficient, transparent and safe operations for the customer.



Milestones in 2017



January 2017: Aebi helps race course management to prepare longest World Cup downhill skiing slope: Lauberhorn
At 4,5 km, it is the longest FIS World Cup downhill slope and has been a permanent fixture in Alpine skiing since 1930: the downhill run on the Lauberhorn in the Swiss resort of Wengen. Skiers need around 2:30 minutes to complete the 1028-metre steep decline and reach a top speed of up to 160 km/h in the process. Small wonder then that the course operators place high demands on the condition of the piste and that absolute concentration is required during the preparations. As with the World Cup race the weekend before in Adelboden, the organisers in Wengen looked to Aebi's tried and tested tracked vehicles to assist them: the Aebi TT280 with crawler tracks and overhead winch was on-site, along with the Aebi TT211 with crawler tracks and snow cutters as well as the new Aebi EC170 with snow cutter.



February 2017: a one-two win for Aebi at "Tractor of the Year"
When choosing this year's "Tractor of the Year", readers of Schweizer Bauer magazine gave the Aebi VT450 Vario a convincing win with 27% of all votes cast, closely followed by the Terratrac TT211 Autonom, also from Aebi. The one-two win in the mining category is a very pleasing result, all the more so given that the company finished first and second out of the ten nominated special-purpose vehicles. Having recently won the Swiss Innovation Award, this is the second distinction in a matter of months.



April 2017: new "X-Range" product line successfully presented at Interalp in Innsbruck
The new X-Range presented by ASH Group at the Interalp trade fair marks a series of special-purpose vehicles ideally suited to the needs of winter sport regions, mountain railway operators as well as organisers of alpine skiing events. The grey vehicles in the X-Range series drew in the 26 400 trade and business professionals attending the fair like a magnet and were very well received.



June 2017: the Swingo 200+ compact sweeper sweeps up the gold medal
Every two years, Frankfurt's demopark, Europe's largest open-air exhibition for green-sector professionals, golf experts and local government decision-makers, plays host to the competition for the innovative, leading-edge technology award. This year, the gold medal was swept up by the Swingo 200+ Koanda, one of the most environmentally-friendly sweepers in its class on the market. The jury of experts was especially impressed by the unique combination of a pressurised water recirculation and Koanda recirculation system. The unrivalled Koanda recirculation system reduces the emission of noxious fine dust by up to 95%. Factors such as fine dust emissions and noise emissions are becoming increasingly significant. The innovative Koanda system therefore not only represents real added value for customers but also for the environment.



August 2017: Aebi TT281 picks up gold medal as "Tractor of the Year" in Slovenia
This year's AGRA, the International Fair of Agriculture and Food in Gornja Radgona, Slovenia, saw the Aebi TT281 crowned as tractor of the year. AGRA is the largest and most important fair for agriculture and food in Central Europe and was held for the 55th time.



November 2017: Aebi VT450 Vario stars at Agritechnica in Hannover
The top-notch Aebi VT450 Vario presented at the Agritechnica trade fair meets the emission standards with its Euro 6C engine. A further new feature is the panoramic cab as well as a fully new, simplified operating concept. With 2800 exhibitors and 450 000 fairgoers, Agritechnica has further built on its leading role as the world's meeting place for the farming and agricultural engineering industries.

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JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY AUGUST SEPTEMBER OCTOBER NOVEMBER DECEMBER



January 2017: first Schmidt TJS-C 630 jet sweeper at Québec airport
A Schmidt TJS-C 630 has been in use in Québec since the winter of 2016/17 – the first machine in this series anywhere in Canada. An addition to the existing fleet, it is deployed to ensure that the 45-metre wide take-off and landing runway is fully cleared whenever a machine should fail.



March 2017: Barend Fruithof appointed new CEO of ASH Group
As of 1 March 2017, Barend Fruithof will be assuming the post of CEO of ASH Group. Barend Fruithof is a skilled farmer who graduated with an Executive MBA from the University of St. Gallen. He pursued a career in farming before successfully engaging in a career in the banking sector. Among other managerial functions, he was employed as CFO at Raiffeisen Schweiz and headed the corporate client business area during his seven years at CreditSuisse.



May 2017: Stratos honoured at Autostrada in Poland
This year's "Autostrada", the international road construction industry trade fair held in Kielce, Poland, attracted over 14 000 visitors. ASH Group's showing proved to be a total success. Visitors to the trade fair were treated to a broad spectrum of attachments and mounted equipment that can be used throughout the year. One of the particular highlights of the fair for Aebi Schmidt Poland was undoubtedly the award it received for the Stratos demountable spreader. The high versatility and cost effectiveness of the spreader proved to be convincing arguments for the jury. The tipping point that led to the award of the medal: the Stratos' long service life, high reliability, low maintenance costs and innovative, modular construction.



June 2017: Suisse Public in Berne attended by around 20 000
ASH Group's classical maintenance area stand was swamped by visitors at Switzerland's largest public-sector trade fair. Guests encountered a broad range of vehicles and equipment for all-round use in local governments. The Aebi VT450 Vario transporter and Aebi MT750 with semi-hydrostatic traction drive met with particularly high interest.



October 2017: Inter Airport Europe, Munich: ASH leaves its mark with the CJS-DI
ASH Group's professional, well-organised stand at Inter Airport Munich, the International Exhibition for Airport Equipment, Technology, Design & Service, was well attended. Customers were impressed by the CJS-DI – the multi-functional jet sweeper that can also be used for de-icing. The CJS-DI is a compact jet sweeper with additional demountable spreader/sprayer that can be customised to a customer's specific needs. The 21st edition of the Inter Airport exhibition brought in record crowds: over the four days, close to 14 000 trade and business professionals from 110 countries visited the exhibition grounds in Munich, some 9% higher than the last time the event was held in 2015.

Areas of Application

The areas of application of the ASH Group's products are manifold. Our extensive range of products comprises our own vehicles, attachable and demountable devices for individual vehicle equipment as well as intelligent product systems and customised services – we aim to constantly contribute to improving our numerous customers' performance capacity.



MUNICIPAL WINTER

The ASH Group is a world leader in the field of snow clearance and de-icing. Our snow clearing machines and snow ploughs are capable of removing any type of snow in any terrain at any altitude reliably and efficiently. When it comes to de-icing operations, our broad range of state-of-the-art spreaders also set standards – especially as regards environmental protection: Thanks to the electronic control system, each of our feed systems offers maximum dosing accuracy.



MUNICIPAL SUMMER

We boast the world's largest range of products in the field of sweeper technology. The extensive product range comprises truck-mounted, attachable and compact sweepers. Our machines stand out with their compact design, environmentally friendly technology and excellent sweeping performance. Street washers, sand cutter blowers as well as our own multipurpose transporters complement the summer maintenance equipment that leaves nothing to be desired.



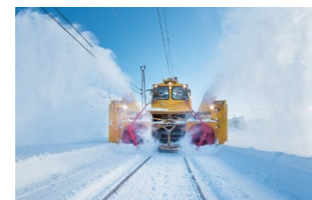
AGRICULTURE

In the field of agricultural equipment, we offer a wide range of vehicles and equipment that are perfectly adapted to the varied requirements of our customers. With our popular Terratrak range, we offer extremely flexible carrier vehicles for steep slopes with front and rear attachment points. Our extensive product portfolio additionally comprises customised transporter models as well as the Combitruck single-axle line. All Aebi vehicles and equipment meet the highest standards and are thus very efficient, safe, manoeuvrable, easy to maintain and durable.



AIRPORT

The ASH Group is a global leader in the field of airport equipment. We offer our discerning customers extensive expertise and a comprehensive product programme ranging from snow clearing to cleaning vehicles. Our customised high-tech machines and systems meet the highest safety standards, offer maximum performance and availability and have now also become CO₂ neutral.



RAIL TECHNOLOGY

The business segment of rail track clearance is represented in the market by the Beilhack brand. Outstanding development achievements, highest quality standards and exemplary services have made Beilhack a leading specialist in snow clearance. For the highly specialised snow clearance on rail tracks, Beilhack has the appropriate solution in any case.



TELEMATICS – DMI

No matter in what area of application, the intelligent provision of data and their meaningful use is critical to the economic success of our customers. Therefore, we offer systems and self-developed products that allow for comprehensive and transparent documentation of human and machine performance. Our solutions permit an immediate clear statement of the amount and weights applied in the specific operation – thus showing the quality of all work performed.



SERVICE & SPARE PARTS

ASH Service is characterised by a high availability of both service technicians and spare parts. The large number of spare parts in stock enables our numerous regional service technicians in their mobile workshops to minimise downtimes in our customers' operations. Our state-of-the-art warehouse guarantees the prompt supply of spare parts at all times.



SERVICES

Efficiency advice – a precise analysis of the routes to be covered allows us to select the ideal combination of vehicles and their equipment.

Safety training – safety at work is the top priority not only for us, but also for our customers. In order to meet this requirement, the ASH Group offers professional educational programmes and practical training courses.

Financing – ASH Finance offers our customers collaborative financing solutions to make smooth operations profitable for all involved.

Calibrating and adjusting the winter fleet – by updating our customer's fleet we help them to save salt.

Spare parts availability subscription – in this way, we guarantee our customers high availability of spare parts and fast, direct delivery.

Training – we offer trainings for our customer's drivers and technical staff, so that they learn to use our machines optimally and efficiently.

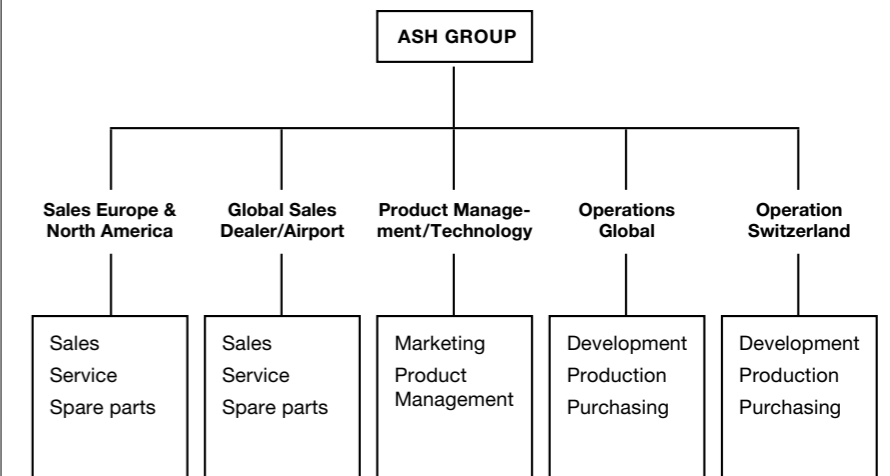
Operational Corporate Structure

The managerial responsibility for the ASH Group lies with the CEO. The managerial responsibility for the individual divisions is incumbent upon the Division Managers. The parent company of all group companies is Aebi Schmidt Holding AG.

Until 1 June 2017, the ASH Group was structured into three operational divisions: Markets & Sales, Operations Global and Operations Switzerland. In addition, the sales regions were subdivided into the areas of Europe, North America as well as Global/Airport.

Since 1 June 2017, the ASH Group has been structured into five divisions: Sales Europe & North America, Global Sales Dealer/Airport, Product Management/Technology, Operations Global and Operations Switzerland.

ASH GROUP SINCE 1 JUNE 2017



Product Range



Municipal Winter

- Snow ploughs
- Rotary snow clearance (motorised)
- Rotary snow clearance (attachable)
- Spreaders
- Sprayers
- Multipurpose machines (spreading and spraying)

- Winter maintenance equipment for tractors
- Brine saturators
- Special snow ploughs

Municipal Summer

- Compact sweepers
- Truck-mounted sweeper
- Attachable sweepers
- Towed sweepers
- Street washers
- Snow cutter blowers
- Universal transporter
- Universal carrier vehicles

Municipal equipment

- Universal transporter
- Universal carrier vehicles
- Motor mowers
- Dump body

Agriculture

- Carrier vehicles for steep slope/Terratrak
- Multipurpose transporters
- Motor mowers

Airport

- Snow ploughs
- Rotary snow clearance (motorised)
- Multipurpose machines (spreading and spraying)
- Airport sweepers
- Jet sweepers

Rail Technology

- Special machines
- Multipurpose machines

Economically strong – and sustainable

The ASH Group is the globally leading manufacturer of special vehicles and attachments. The creation of lasting value is based on the guiding principle of “thinking holistically, developing with foresight and working sustainably”, while also giving regard to environmental and social objectives.

Sustainability is an integral part of the corporate strategy and is also embedded in the management, development and work processes. The ASH Group offers an innovative product range of superior quality, comprehensive customer advisory services, a high service quality as well as efficient spare parts and emergency management. Strategic, financial and operational opportunities and risks are continuously analysed and evaluated to ensure the careful handling of resources.

Recognising trends in the relevant market segments in good time and taking them into account in the development of products and services is of central importance for the long-term, profitable growth of the ASH Group. In 2017, a special focus was placed on digitisation. Smart, networked systems have already enabled us to significantly reduce the use of resources in some products. The implementation of such systems in other areas of application was strongly promoted in 2017. For example, spreaders in North America were upgraded with European software technology to reduce the salt consumption in winter maintenance. Since the level of digitisation and automation will continue to increase in the future, the ASH Group developed a digitisation strategy, the goal being to become the worldwide leading provider of intelligent

product systems and services for the cleaning and clearing of traffic areas as well as green space maintenance in challenging terrain by 2022.

The ASH Group involves its employees in the company’s further development. As part of the so-called continual improvement process, the employees can contribute suggestions on all business-relevant topics. Depending on their relevance, the suggestions are evaluated and implemented by either the competent superior or a team specifically set up for this purpose. A number of quality improvements and costs savings in products and processes as well as in procurement were already implemented in 2017.



ASH Group Values

Living by values. Creating values.

In the ASH Group, 1600 people across the globe do their daily work. Having such a diverse group of individuals working together requires shared values. Values are the foundation for our actions and the guideline for our behaviour – both within the company and in dealing with customers and business partners. As part of the ASH Group Strategy 2022, we have defined six values that are essential to our way of working. This makes it easier for us to work together and ensures the success of the ASH Group.



RESULT ORIENTED

We contribute and add value to ASH Group performance
 ... recognize and realize business opportunities
 ... aim for the best result
 ... focus on the outcome of our actions
 ... maximize profitability



COLLABORATION

We strive together for one common goal
 ... work in a global network
 ... utilize each other’s skills
 ... take risks, learn from mistakes
 ... benefit from other cultures



CUSTOMER FOCUSED

We improve the performance of our customer
 ... think in solutions
 ... achieve excellent results
 ... build strong partnerships
 ... focus on customer needs



INTEGRITY

We strive for long-term relationships
 ... are trustworthy and keep promises
 ... are open and honest
 ... are reliable and take responsibility
 ... act ethical and tolerant, we respect others’ opinion



PASSION

We are part of a winning team
 ... inspire others
 ... are proud of what we do
 ... choose a positive attitude
 ... challenge the limits



INNOVATION

We break new grounds
 ... think out of the box
 ... try the untried
 ... strive for sustainable solutions
 ... encourage continuous improvement

Transition to Circular Economy

Especially our public procurement clients are asking for circular elements in tender offerings. The European Union has devised a programme to stimulate the circular economy that many countries subscribe to.

In Holland, for instance, the government implemented a programme to transform the economy to circular by 2050. But also other European countries like Germany, France, Poland and Great Britain are expected to move towards a circular economy. The ASH Group is preparing to set out on this journey together with its clients.

Circular economy in practice

Although several definitions of circular economy exist, the most important common denominator is that resources stay in circulation, which means closed loops. Following the widely accepted classification of the Ellen Macarthur Foun-

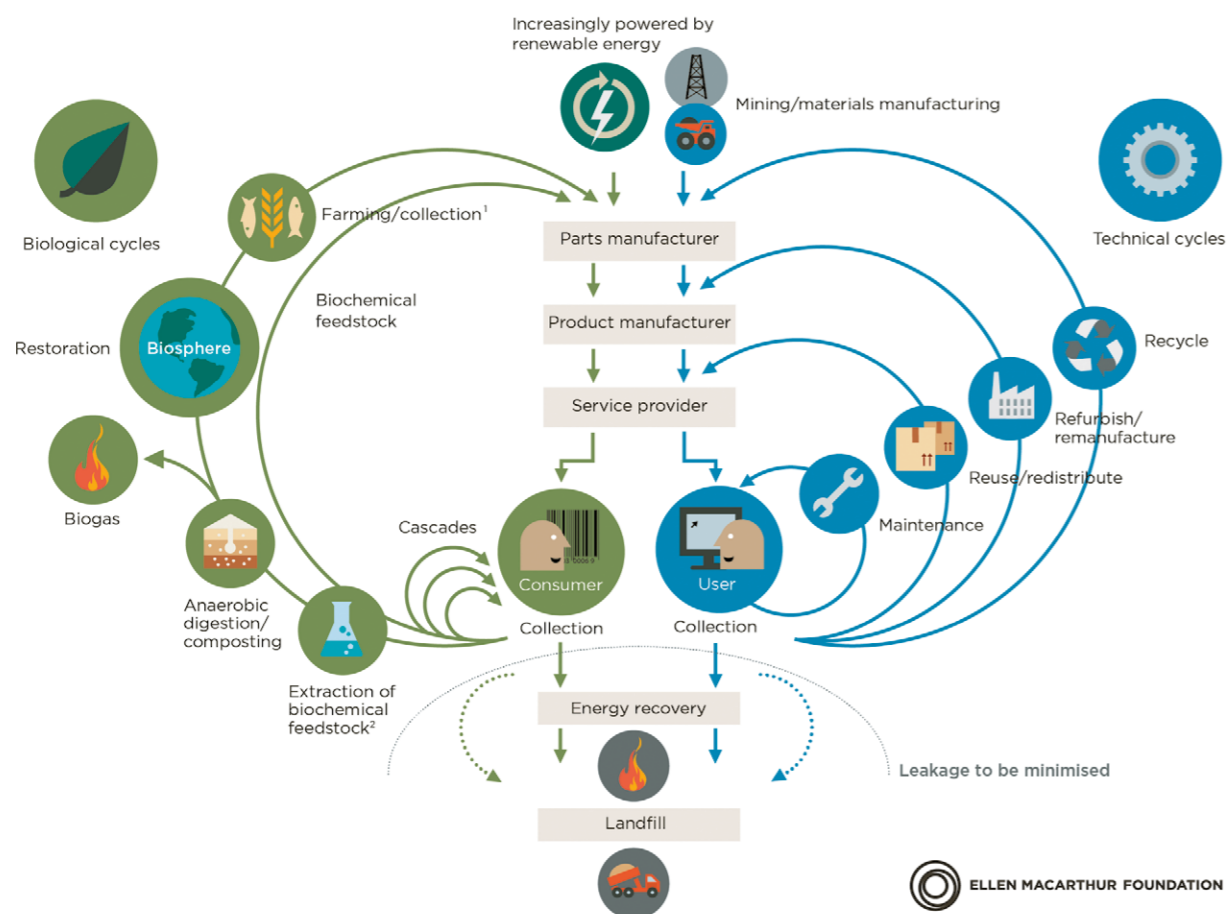
ation (see figure below), the ASH Group distinguishes between reduction, recycling, re-manufacturing, re-using, prolonging and sharing.

Raw materials

Resources not used do not have to be renewed. Therefore, the ASH Group has implemented a company-wide programme (Fit for Tomorrow) to reduce the raw material consumption in general. However, special attention was given to reducing CO₂ emissions and avoiding the use of toxic or harmful substances like coatings.

In our production plant in the Netherlands, the supply chain was developed with an emphasis on local suppliers. That

CIRCULAR ECONOMY



¹ http://ec.europa.eu/environment/circular-economy/index_en.htm
² <http://www.bmub.bund.de/en/topics/german-resource-efficiency-programme/overview/>
³ <https://www.euractiv.com/section/sustainable-dev/news/circular-economy-advances-in-france/>
⁴ <http://www.wrap.org.uk/content/wraps-vision-uk-circular-economy-2020>
⁵ Kirchner, Reike & Hekkert: Conceptualizing the circular economy: An analysis of 114 definitions. Resources, Conservation & Recycling 127 (2017) 221–232

way, the CO₂ produced by shipping materials could be minimised. An additional advantage was the reduction of stock levels. Also various energy efficiency measures have been taken, e.g. the installation of LED lights, where possible and the redistribution of residual heat from the oven to other parts of the plant.

→ **Epoxy coating**
 In one of the production phases, metal parts of the machines are coated to protect them from corrosion. Instead of using traditional methods that involve acid baths, the shift to powder coating was made. In close cooperation with our supplier, we managed to replace the zinc coating compound with a high-tech innovative epoxy coating. Besides avoiding environmental load with zinc, this positively influenced the working conditions for our employees.

Recycling

The main driver behind a good circular economy is the ability to preserve the inherent value of the products (parts). Therefore, the ASH Group is trying to reuse as much as possible to avoid mere recycling/downcycling. Sometimes parts can serve a new purpose in a different function. And naturally, for those resources that have no other use, the ASH Group ensures selective waste collection.

→ **Blasting**
 In our plant in the Netherlands, the steel plates are blasted with steel shot. Because special attention is given to keeping the material clean, the shot can be recycled as new iron.

Re-manufacturing

Our machines are used in extreme conditions. For instance, some cities in the UK are operating our sweepers at a schedule of 2 400 hours per year without any problems, because we design them for reliability and low-cost maintenance.

Despite the advanced construction our machines, wear and tear is unavoidable. But even if the machine is at the end of its life, it can be repaired and fitted with the appropriate spare parts to perform well again.

→ **Successful re-manufacturing in the UK**
 In the UK a large public client asked Aebi Schmidt to gradually remanufacture their 12 year old sweepers, because with our local service centre's expertise the life of the machines could be extended. Already

“The durability of Aebi Schmidt’s equipment is so high that even after 12 years of use they still function adequately. I am proud that our specialists in Peterborough can help this client to use these fine machines for years to come.”

Richard Bryant, Managing Director Aebi Schmidt UK

in 2017, four sweepers were carefully disassembled, repaired and refitted with new parts in combination with extensive servicing to guarantee their quality.

Re-using

The ASH Group is renowned for its innovation and succeeds in setting the quality standard in our markets. Some clients are, however, satisfied with the state-of-the-art technology of yesterday. Therefore, Aebi Schmidt encourages that economically depreciated, but technically fine machines get a second life.

→ **Stringent requirements for sustainability**
 In Poland, the public clients make strict demands on recycling and sustainability. One of the reasons the Polish military has chosen a product of the ASH Group for winter maintenance is the fact that we take back used machines and find meaningful purposes for them. After repairs, shot peening, painting, checking all necessary parts, calibration and functional tests, the machines are fit to serve other clients for years.

Prolonging

The ASH Group develops its products with the total cost-of-ownership in mind. Therefore, our clients are trained in the proper use of our machines and full-service maintenance contracts are increasingly becoming standard practice.

This not only reduces the operating costs for our customers, but also increases the durability of the machines and their residual value, both financially and in terms of circularity. After all, the better the residual quality of the products (parts), the better they can be reintegrated into the production processes.

European public clients prefer products that promote sustainability. On the other hand, they need state-of-the-art technology to improve their performance year after year. Therefore, the ASH Group

designs its machines according to the modular principle, contributing to prolonging their use.

→ **Den Haag**
 The Dutch city of Den Haag has ambitious goals with regard to circular economy. In 2017, HMS (The Hague public space cleaning services) needed to upgrade half of its vehicle fleet to the latest technology. The Director of HMS, Mr Baars, approached Aebi Schmidt Netherlands, asking for help in retrofitting the Stratos 3 spreader. In a joint effort, the previous generation machines were remanufactured and retrofitted with the latest technology of the Stratos 3. Baars: “I got my 13 spreaders back, equipped with the latest technology. And the beauty of it all is that we have become more circular without spending more than we budgeted for brand new ones.”
 The machines were immediately put to the test when Den Haag was experiencing extreme snow conditions in December 2017, and passed with flying colours.

Sharing

Servitisation is the shift from the sale of products to the delivery of services – this approach fits perfectly into future circular models. As a manufacturer, the ASH Group takes responsibility for and control over the value created with their products. By updating our machines and software according to the latest insights, the same end result can be achieved using fewer resources.

→ **Aebi Schmidt as a full service provider**
 The Dutch municipality of Leidschendam-Voorburg decided to fully outsource the winter road maintenance to Aebi Schmidt Netherlands, since Aebi Schmidt is offering de-icing and snow clearance as a service. Using our advanced route optimisation, GPS mapping, maintenance schedules and de-icing techniques, Aebi Schmidt managed to deliver better results using fewer machines and resources, thus reducing the total cost for the municipality and our client.

Our Locations

The ASH Group maintains a global sales and service organisation that is being continuously expanded. Our customers in Europe are served by our own sales and service organisations as well as local sales and service partners, whereas customers outside this region are taken care of by our globally operating “Aebi Schmidt International”.

Competence Centres and Sales & Service (LSO)

- 1 **Germany**
Aebi Schmidt Deutschland GmbH
- 2 **Netherlands**
Aebi Schmidt Nederland BV
- 3 **Poland**
Aebi Schmidt Polska Sp.z.o.o.
- 4 **Switzerland**
Aebi & Co. AG Maschinenfabrik
- 5 **Norway**
Aebi Schmidt Norge AS
- 6 **USA, Cleveland, Ohio**
Meyer Products LLC
- 7 **USA, Lindenwood, Illinois**
Swenson Spreader LLC

Sales & Service (LSO)

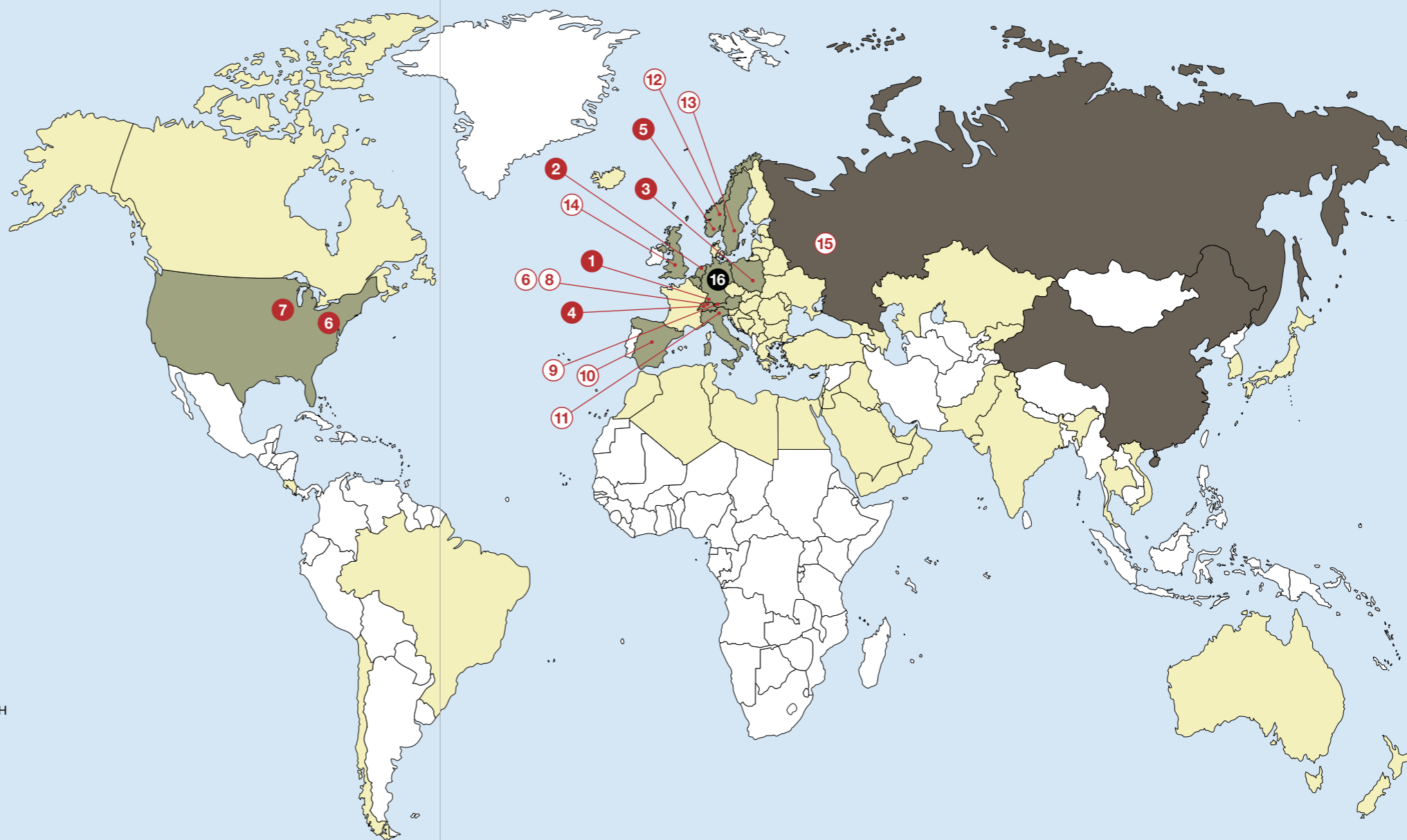
- 8 **Switzerland**
Aebi Schmidt International AG
- 9 **Austria**
Aebi Schmidt Austria GmbH
- 10 **Spain**
Aebi Schmidt Iberica S.A.
- 11 **Italy**
Aebi Schmidt Italia s.r.l.
- 12 **Norway**
Aebi Schmidt Norge AS
- 13 **Sweden**
Aebi Schmidt Sweden AB
- 14 **Great Britain**
Aebi Schmidt UK Ltd
- 15 **Russia**
LLC Aebi Schmidt Rus

Global Logistics Centre

- 16 **Germany**
ASH Logistics Centre,
Aebi Schmidt Deutschland GmbH

Holding

- 6 **Switzerland**
Aebi Schmidt Holding AG



○ Dealer	Europe	● Greece	● Romania	● Belorussia	Africa	○ Bahrain	○ Kyrgyzstan	○ Thailand
● Aebi Schmidt representative offices	● Bosnia & Herzegovina	● Iceland	● Russia	● Cyprus	○ Egypt	● China (North and East China)	○ Kuwait	○ United Arab Emirates
● Aebi Schmidt Local Sales Organisations	● Bulgaria	○ Croatia	● Serbia	America	○ Algeria	○ India	○ Lebanon	○ Vietnam
	● Denmark	○ Lithuania	● Slovakia	○ Brazil	○ Libya	○ Iraq	○ Oman	○ Yemen
	● Estonia	● Luxembourg	● Slovenia	○ Chile	○ Morocco	○ Israel	○ Qatar	
	● Finland	● Malta	● Czech Republic	○ Costa Rica	○ Tunisia	○ Japan	○ Pakistan	Oceania
	○ France	● Macedonia	● Turkey	○ Canada	Asia	○ Jordan	○ Saudi Arabia	○ Australia
	● Georgia	● Moldavia	● Ukraine		○ Azerbaijan	○ Kazakhstan	○ Singapore	○ New Zealand
			● Hungary				○ South Korea	

Customers, Sales Organisation, Markets

Enabling our customers to work and run their business in a sustainable manner is our top priority.

If requested, we literally do our customers' work for them, ensuring that they achieve the prescribed KPIs with our products. Therefore, we invest a great deal of time, money and energy in developing new products and services in line with the market requirements, such as a fully electric sweeper.

Our ambition: We want to be a full service provider for our customers and expand our product range to that effect.

Customer health and safety

Guaranteeing the safety of the products for the customers is a basic prerequisite for staying competitive in the market. This is not only important in view of the customers' ever increasing awareness of safety aspects, but also for reasons of liability. Therefore, the ASH Group relies on continuous quality assurance. All products are regularly tested regarding their health and safety impacts for the users throughout their entire lifecycle.

In the European Union, the Directive of the European Parliament on General Product Safety and its respective national transpositions define the fundamental requirements for safe operation. Compliance with applicable laws and standards concerning product safety is documented by CE markings and GS certificates (Tested Safety). The CE marking is prescribed by law in the European Union. Although the GS certificates are only valid in Germany, they are also recognised in other countries. Regulations for products distributed outside the EU are based on the

local laws. All European products of the ASH Group fully meet the respective requirements.

Being a company with a strong customer focus, the appropriate instruction of users is very important to the ASH Group. Most importantly, safety-relevant aspects must be sufficiently known to guarantee safe use. All products feature protective equipment, such as warning lights and warning signs. In addition, the respective operating manuals, safety manuals and material safety data sheets provide information on all relevant safety instructions, including information on the disposal and recycling of individual vehicle components. A number of countries additionally require certificates that prove the EU origin of the individual product components. For this reason, the ASH Group obtains certificates of origin for all materials from its suppliers.

Extensive dialogue with customers

The ASH Group's customers include municipalities, public administrations, airports, service enterprises, the military, agricultural businesses and industrial companies, which results in highly diverse product requirements. The ASH Group has set itself the goal of meeting these requirements in the best way possible, which it achieves through close customer relations as well as optimum networking and online presence. (GRI 102-40)

The quality management system makes sure that feedback from customers is collected, forwarded to the competent departments, evaluated and translated into corresponding measures. The feedback includes feedback from end-of-season meetings and complaints and is indispensable for the continuous quality improvement of the products and services. The customers are often also involved in the development of new products. Special workshops are organised to identify their needs regarding design and function. Before a vehicle is put into trial operation, the prototype is further developed based on customer tests. In 2017, for example, the CJS-Di, a compact jet sweeper with additional de-icer, was in trial operation at three airports. Special requests from customers – insofar as economically reasonable – are taken into account when designing new products. (GRI 102-43)

The ASH Group regularly conducts customer surveys to better understand the customers' wishes and to gain an insight into the level of customer satisfaction. Using an online questionnaire, customers are interviewed on product quality, service and customer support, sales and marketing as well as order processing. The last survey was conducted in 2015/2016 and revealed that the customers attach particular importance to swift support in the event of technical problems and short delivery periods. No survey was conducted in 2017. The next survey is planned for 2018. (102-43/ 102-44)

Customer Highlight 2017

The CJS jet sweeper in Turkey

55 airports, 55 requirements, 1 model: The Schmidt CJS jet sweeper in Turkey.

Whereas until recently there was no snow at all in Istanbul, in the last five years the climatic conditions have changed drastically. Although in contrast to other regions in Turkey the city only has to deal with a fine blanket of the white stuff over a short period of time, it is all the more intense when it does come. However varied the requirements may be at the 55 airports, they have one thing in common: when there is snowfall, the runways have to be cleared of snow quickly and efficiently. The assignment from Turkey was therefore clear right from the start: the aged fleet was to be replaced by state-of-the-art sweeping technology to ensure that the white snow has no chance. DHMI, the competence centre for procurement across almost all Turkish airports, was impressed by the tried-and-tested compact jet sweeper. "We require a robust high-performance machine that delivers top performance in very different weather conditions. The easy handling and operation of the machine was also important to us as the drivers come from very different sec-

tors. With the renowned CJS compact jet sweeper, which has already proven its worth many times around the world, we are convinced that we have made the right choice," explains Veysi Dogruyol, Mardin Airport Manager from DHMI.

In addition to these features, the new design is set to give the airports a dynamic look and feel that shows safety and quality. At the same time, factors such as CO₂ emissions and the consumption of resources are also becoming more and more important for Turkish airports. "This is why it was important for us to work together with a partner that leads the way in these areas," says Veysi Dogruyol. The CJS for the Turkish airports is equipped with the latest exhaust gas technology. The truck engine meets the Euro 6 standard and the auxiliary engine meets the EuroMot 4 standard. For DHMI, safety was also important alongside efficient performance. For this reason, the machines are equipped with a 360° camera to ensure that the operator has a complete overview of the machine in all transport and working situations. In addition, an improved lighting package was chosen: LED working spotlights which perfectly illuminate the working areas around the plough and brush.

Customer Highlight 2017



Incheon Airport

Incheon Airport in South Korea is gearing up for the 2018 Olympic Winter Games.

The "Land of the Morning Calm" is readying itself for the Games in February 2018. Given that passenger traffic spikes during events of this magnitude in particular, it is an absolute must for

any airport of good standing to have snow-free and ice-free runways and taxiways. To ensure absolute safety and punctuality at all times, IAC (Incheon International Airport Corporation) is adding ten Schmidt TJS 630 jet sweepers to their winter service fleet (21 Schmidt CJS 914 jet sweepers and 2 Schmidt ASP 24 airport sprayers).



Customer Highlight 2017



Québec Airport – There is always a first time

Since the winter of 2016/17, a Schmidt TJS-C 630 has been deployed in Québec – the first machine of this series.

As part of the implementation of the TALPA initiative* and GRF** by the ICAO (International Civil Aviation Organization) in 2020, Québec Airport reviewed its fleet of winter maintenance vehicles. It quickly became clear: An additional snow clearing machine needed to be added to the fleet to ensure that the 45-metre-wide runway can still be cleared every single day even if one machine fails. This is why in May 2016 Simon Boucher, Operations Manager at Québec Airport, attended the Snow Symposium in Buffalo in the USA. There he discovered the TJS-C 630. Following several discussions with the experts from the ASH Group, it was agreed that such a machine would be deployed at the Canadian airport for the next two years.

Just in time for the new year, the TJS-C with a clearing width of 5 500 mm was delivered to Québec and was in use from the very first week of January

2017. With an average of 320 cm of snow and precipitation falling during the winter months, the city offers perfect conditions to really test out the performance capability of the TJS-C. The efficient jet sweeper is known for its high-performance snow clearance without leaving any residue behind. Simon Boucher comments with great satisfaction: "The TJS-C has fully exceeded our expectations." On the one hand, the customer is thrilled at the above-average clearing and blowing performance and on the other hand, he is also impressed by the ergonomic driving comfort and the ease of operation. All snow plough, sweeping and blower functions can be controlled using a single joystick. The driver therefore controls all processes with one hand, which noticeably increases the level of safety and minimises the risk of an accident. "In addition, the free accessibility of all the important units and the optimised arrangement of the components mean shorter servicing times for our engineers and therefore shorter downtimes for the machines", Simon Boucher adds happily.

He is also impressed by the lifespan of the sweeper brushes. Whereas on the other machines the sweeper units have a lifespan of around 70 hours, on the TJS-C they are used for more than 100 hours before they need to be replaced. In general, the sweeper units are very costly, which is why the brush of the TJS-C is a particularly good investment over the long term.

One of the biggest challenges in Québec is to clear the runway landing beacons located along the side of the runways without leaving any residues behind. "The TJS-C is extremely flexible and efficient. Thanks to its powerful blower unit, it can also clear the last remnants of snow and ice from the lighting beacons, which is an essential safety factor for aircraft that are landing and taking off. We are extremely satisfied with this result."

* The TALPA (Takeoff and Landing Performance Assessment) advocates greater safety at airports in North America.

** The airports document the friction values on runways in the GRF (Global Reporting Format).

Customer Highlights 2017

The fastest wins the race

The company Triangle Grading & Paving in North Carolina received several highway maintenance contracts and had to verify to the state that it had the required fleet to take care of this task.

The first order for 30 spreaders was received as early as August 2015, requesting that they be delivered by 10 October, which we did. Since this first order, Carolina Industrial and Triangle Grading & Paving have ordered at least 25 units over the course of 2016 and 2017. And initial talks concerning an order in 2018 have already been taken up.

What convinced the customer was our solution of offering a "standard in-stock item", which can be configured

quickly and easily and the construction of which is started within about ten days of receipt of the order. We assured the customer that we always keep in stock the components used for the supplied v-box. We thus met, if not even exceeded, the customer's expectations, since all spreaders were delivered on time and in top quality.

Customer benefit

Thanks to the use of standard components, the customer benefits from the prompt production of the item, in addition to receiving high quality at a competitive price. Each of these three parameters must be fulfilled for successful contract awards. The use of standard components additionally ensures that spare parts can be delivered within days in the event of repairs.



Armasuisse

To replace various types of snow cutters, new snow cutter blowers had to be procured for the operations of the AFLO (Armed Forces Logistics Organisation). Their purpose: the clearing of infrastructure areas around the buildings of the Dep. of Defense.



The snow cutter blowers are used for the quick cleaning of large surfaces on military training areas, shooting ranges and drill grounds as well as for the clearing of access roads and partly also public roads and streets.

The snow cutter blowers were put out to tender and the ASH specialists quickly realised: The SUPRA 4002 automotive snow cutter blower is the appropriate machine for this purpose, because its "articulated steering" guarantees excellent manoeuvrability. The SUPRA 4002 is additionally characterised by ease of operation as well as premium comfort and ease of use. Extensive demonstrations and test drives on the Simplon Pass convinced the users and the customer. Another advantage of the SUPRA is the outstanding all-round view for the driver – which was greatly appreciated by the users.

Customer benefit

The overall package of machine price, customer service, warranty package and comprehensive support and consultation was just right for the customer. Moreover, Aebi is a local manufacturer with an excellent dealer network, offering optimum service centre coverage throughout Switzerland.

Customer Highlight 2017

Austrian Federal Railways (ÖBB): Automotive high-performance snow blowers

Exposed sections of the railway lines in Austria's mountain regions are frequently affected by extreme weather conditions. To ensure that these sections are fit for traffic, especially in the event of natural phenomena such as snow drifts or avalanches, the use of heavy-duty snow clearing machines has proved effective for ÖBB.

ÖBB has already been using several Beilhack railway snow blowers for decades and is very satisfied with this technology and the performance.

Of course, the question of the profitability of such a special machine also arose at ÖBB. A decision had to be made between a multifunctional machine and a special machine, which is capable of coping with the harsh winter conditions and the demanding topography of the Austrian railway network.

The proficient interdisciplinary ASH team consisting of staff members from development, key account management and sales developed a technical solution in conformity with the tender specifications and finally received the official order in late 2017.

Customer benefit

We are very excited to be implementing this project, which is also not an everyday event for ÖBB: A four-axle automotive snow blower featuring a slewing mechanism for rail clearance which

- can quickly be taken to the respective areas of application with a transport speed of up to 100 km/h
- easily copes with all of Austria's topographical requirements, including slopes, both in transport and clearing operation
- is equipped with a double frame-integrated 180-degree slewing mechanism, enabling it to change its direction of travel in no time and on open track
- meets the latest technical standards, including preparation for the subsequent installation of an ETCS system.

And these are only some of the highlights of this machine and the successful deal with ÖBB!



Customer Highlight 2017

Amsterdam relies on sweeping technology from Aebi Schmidt

Amsterdam is considered to be a smart city and with "Climate Street", for example, it initiated a flagship project for the Netherlands as a whole. By 2040, Amsterdam wants to be one of the top cities in the world when it comes to sustainability.

In addition, the intention is that by 2025 all public transport should operate without producing any emissions. It is no wonder then that great importance is also attached to efficiency and clean technologies with vehicles and operating equipment used by the municipal works department. During the most recent tender, a strong focus was placed on the maximum reduction of CO₂ emissions. The innovative technology of the Swingo 200+ with the Koanda system impressed the responsible officials, as did its big brother, the Cleango 500.

The Swingo 200+ Koanda is the perfect answer to meeting the city's high technical requirements and ambitious environmental targets. The ASH Group also offered a "carefree" package for the entire lifespan of the machines. This was based on a workload scenario and a detailed action plan.

Information at the right place at the right time

The sweepers from Aebi Schmidt are continuously monitored while they are operating. This means: Any deviations or faults are often already displayed before the driver notices them. The service engineer from Aebi Schmidt Netherlands is then notified immediately, can respond directly and carry out the required service or repairs on the sweeper during the regular service life.



The service notifications for regular servicing are likewise automatically forwarded on. This enables efficient planning without interfering with day-to-day operations or any unnecessary downtimes.

The right eye for innovations

The responsible officials in Amsterdam also appreciated the patented "Koanda system" with a pressurised water recirculation system. This combination reduces the emission of harmful particulate matter by up to 95%. Combined with a new, intelligent pressurised water recirculation system, the machine

becomes even more efficient and eco-friendly than ever before. The need for time-consuming stops to refill water is eliminated, making extended sweeping operations possible.

The pressurised water recirculation system permits large amounts of water in the suction system, enabling reliable and low-wear collection of dirt. The optimum water recovery system additionally guarantees compacted and semi-solid debris while being easy on the environment, owing to the particularly efficient handling of resources.

Products and Services

The ASH Group supports its customers in achieving their goals by offering powerful, efficient and environmentally friendly technologies.

Since sustainability aspects are becoming more and more important to customers, they are already taken into account during the product development while giving regard to the product's entire lifecycle. Customer requests pertain, in particular, to the reduction of greenhouse gas emissions, which is why the demand for products with electric drives is steadily increasing. This development is additionally accelerated by more stringent laws and regulations that prescribe the use of low-emission engines in all products of the ASH Group. Other regulations concern the control of spreading material dosage, necessitating adaptations to spreaders and sprayers.

For example, the ASH Group responded to the growing demand for fully electric vehicles by developing the eSwin-go 200+, a zero-emission sweeper, which will be launched at the IFAT in Munich in spring 2018. Furthermore, Aebi Schmidt in the Netherlands launched a new generation of airport sprayers, the redesigned ASP-24 and ASP-30, whose hydraulic energy consumption was reduced by 30%, among other things. After the fully electric implement carriers EC130 and EC170 had been introduced to the market in 2016, the focus in 2017 was placed on reducing the exhaust emissions of the multipurpose transporters. The TP420 now conforms to the EU Stage V exhaust emission standard and the VT450 to the Euro 6C exhaust emission standard.

To reduce the consumption of resources over the entire lifecycle, the ASH Group attaches great importance to durability as well as lightweight and environmentally friendly materials. In 2017, the weight, and consequently also the fuel consumption, of the HPB highway snow plough manufactured in Poland (successor model of the ML51A) was reduced by

250-300 kg, depending on the configuration. In addition, the bodies of the Stratos 3 spreaders are made of recycled plastic materials. Upon request, the brine tank can also be made of recycled material. The demand for products that can be recycled at the end of their lifecycles will increase in the future, which calls for the innovative spirit of the ASH Group.

The ASH Group endeavours to continuously reduce the use of consumables. To this end, it developed GPS-based guidance systems that permit a more precise dosage of de-icing materials. The optimised routes reduce the fuel consumption while helping to avoid double treatment of surfaces. The Combi Soliq multipurpose spreader, which ensures safe roads in winter despite significantly reduced salt consumption, went into series production in 2017.

Product Highlights 2017

We implemented the following changes and improvements to our products in 2017:



Telematics

The Winter Report in general and the introduction of the Winter Logic project were well received by the customers. The new system allows customers to monitor both the operational and performance data of their machines live and online.



Dosing and spreading accuracy

We continue to focus on the dosing and spreading accuracy of our spreaders, also in view of the upcoming European EN 15597-2 standard on the requirements for distribution of spreading material.



ASP sprayer

The ASP airport sprayer was completely redeveloped and further adapted to the customers' needs. The feedback from the market is positive throughout: The machine is more quickly ready for service, is more flexible and works with high precision.



Snow ploughs

We carried on the standardisation of our snow ploughs, enabling us to respond more rapidly and flexibly to market requirements.



SK660 truck-mounted sweeper

The options for the SK660 truck-mounted sweeper were also enhanced, now meeting the high customer requirements.



Snow cutter blower

One of the key criteria for the Supra snow cutter blower is the machine's premium comfort and ease of use, which we achieved by making continuous improvements in quality, further enhancing the customers' trust in our product.



VT450 Vario

The top-of-the-range model among the Aebi transporters, the VT450 Vario, was adapted according to Regulation (EU) No 167/2013 and is now fitted with a new Euro 6C engine that complies with the currently applicable emission limits. The panoramic cab and the completely redesigned and simplified operating concept were newly added as well.



MT740 and MT750

The Aebi MT740 and MT750 carrier vehicles are now also available with a semi-hydrostatic drive. This combines the advantages of a hydrostatic and mechanical drive in one vehicle: working at variable speed with high precision and driving to the next application at high speeds.

Product Highlights 2017



“The two Aebi TT with crawler tracks and the electric EC170 are a big and reliable tool that helps us to make the necessary preparations for the Ski World Cup. The intuitive control enables the drivers to operate the machines without needing a lengthy briefing; they can simply jump on board and get to work.”

Hans Pieren, Racing Director FIS Ski World Cup Adelboden

The Aebi TT280 can be secured with its overhead winch to prepare even the steepest slopes and can be deployed with a snow plough, snow cutter or snow sweeper. The specially developed winch includes 320 metres of working cable and is able to pull more than four tonnes. The cable is attached to a tree or an anchor point, for example, to secure it. The pivot arm, which can be rotated 360°, enables flexible working on a slope. Just like the TT280, its little brother the TT211 is equipped with special tracks. Both Terratrac are gentle on the surface thanks to their low net weight and the extensive rubber tracks. Equipped with a snow cutter, the TT211 operated in Adelboden ahead of the event to optimally distribute the volumes of snow on the slope and even out any possible bumps in the snow.

The compact Aebi EC170 with a snow cutter also helped to level the ski slope and, in addition to being great fun to drive, race director Hans Pieren is also impressed with the level of power and intuitive control. With just a few movements, the snow cutter can be swapped for a snow plough or sweeper, and the Aebi EC can clear the snow to one side in the narrow access roads, on footpaths, car parks or in the area of the grandstand. Thanks to its electric drive, the Aebi EC not only operates with absolutely no emissions, but also quietly.

FIS Ski World Cup

Following the successful deployment of the Aebi TT280 in 2016, the organisers of the FIS Ski World Cup once again decided in 2017 to rely on “red” support from Aebi in preparing the slopes in Wengen and Adelboden.

The preparations are well underway many weeks before the race. In addition to the TT280, which is specifically adapted for use on ski slopes and boasts a crawler track and overhead winch, an Aebi TT211 with a crawler

track and snow cutter as well as the new Aebi EC170 with a snow cutter will also be used this year.

Ski slopes for the World Cup series need to be extremely hard and compact. Before the surface is watered and thus iced over with the injection bar, a stable base must be created and the volumes of snow must be spread around correctly. If it snows before or on the day of competition, the loose fresh snow must be removed. Whereas the large and heavy snow groomers may damage the sensitive surface of the slope and the large caterpillars can create uneven areas when they change direction, the two Aebi Terratrac can move around without having any negative impact on the sensitive slope thanks to rubber tracks and all-wheel steering. With a clearing width of up to 2,4 metres and with an impressive 109 or 72 horsepower, the Aebi Terratrac are clearly a better option than manual clearance by hand.

“It is now impossible to imagine preparing racing slopes for the Ski World Cup without using Aebi vehicles.”

Robert Lehmann,
Racing Director FIS Ski World Cup Lauberhorn



VT450 Vario and TP420

You can see right away that quite a few changes have been made to the new VT450 Vario and TP420. During their redesign, we took the experiences of the last few years as well as the feedback from our customers into account and optimised plenty of details.

“The cab suspension is now designed in such a way that technical components such as hydraulic and exhaust system are mounted on a separate support frame instead of the cab,

which eliminates flow noises in the driver’s cab. The rear visibility was improved and the rear window was enlarged. Easy assembly and servicing was also given thought and the wiring and layout of the hydraulic hoses were adapted. Both the VT450 Vario and the TP420 are now fitted with an air brake system. The hydraulic system of the TP420 is now also operated via the joystick and the VT450 Vario can now be optionally controlled via the control lever integrated in the armrest. However, the two models still differ in the drive. The VT450 Vario transporter has been

driving at variable speed since as early as 2013, allowing us to incorporate numerous findings in this respect. Driving at variable speed at as low an engine speed as possible is now the name of the game, meaning that the engine speed is only increased as necessary during road operations. From 2018 on, both models comply with the Euro 6C on-road exhaust emission regulation as well as the stage-V off-road exhaust emission regulation.”

Lorenz Berta, Project Manager Development Aebi

The Combi Flex spreader – a milestone in de-icing



Transport Scotland is the agency responsible for keeping Scotland’s trunk roads clear and ensuring the safe movement of all users, while minimising delays and disruptions caused by snow and ice.

Together with Aebi Schmidt UK, Transport Scotland is trialling a new and innovative Combi Flex spreader in

the 2017/18 winter service programme. The brand new concept has been involved in series of successful trials in Scandinavia during the last twelve months, but this is the first time for the innovative Combi Flex spreader to be operated in the UK, bringing a greater degree of flexibility and more spreading combinations to winter maintenance than ever before.

It looks set to play a key role in Transport Scotland’s winter programme in a trial lasting 26 weeks from November 2017 to April 2018. It is twinned with a 32-tonne DAF 8x4 truck, is fitted with a 5-m³ hopper and huge 13,750 litre brine-filled tanks. The machine offers a flexible range of spreading options – from pure salt to pure brine, and all mixing ratios in between. In addition, the Combi Flex allows for rapid changing between dry substances and brine, without the need for conversion.

David Harvey, Technical Sales Manager at Aebi Schmidt, explains the

thinking behind the radical new approach: “While there has been a trend in the European winter market towards greater levels of brine spraying in recent years, the new patented Combi Flex combines all aspects of spreading dry and pre-wet salt, with the ability to adjust brine percentages upwards of 30%, through to pure spraying. Under certain conditions, pre-wet salt with increased brine percentages performs better.”

The new Combi Flex allows greater use of brine spraying in various concentrations depending on the weather and road conditions. For example, salt levels can be increased should the conditions dictate or conversely pure brine can be used if the temperatures are not too severe. By reducing the levels of salt involved, operators can not only reduce costs – by up to 30% in certain cases – they can also lessen the environmental impact at the same time.

Product Highlight 2017

Schmidt CJS-DI – The multifunctional jet sweeper with additional de-icer

It very much lives up to its name because the CJS-DI combines several operations in one: CJS stands for “Compact Jet Sweeper” and DI for “De-Icing”. The Inter Airport trade fair in Munich heralded the birth of the CJS-DI, and then the machine was delivered directly to customers.

Multifunctional jet sweepers are in great demand in the market. Smaller airports in particular have a need for a machine concept that covers all the relevant areas of application in winter maintenance. The Schmidt CJS-DI offers benefits not just in terms of functionality, but from a financial perspective the airports also benefit in a second way: They save having to invest in two machines (jet sweeper and sprayer) by replacing it with a multifunctional combination of machines, whilst at the same time the costs of an additional truck in winter maintenance is spared. The compact machine is also very appealing to medium-sized and larger airports. They benefit from a standard machine and operating concept and can thus save the costs of two lots of training. Another factor is that the level of flexibility can be massively enhanced when it comes to personnel deployment, because the drivers can drive any machine and do not have to adjust to different control consoles. Last but not least, the customers benefit from a multifunctional vehicle that can be used in both summer and in winter. The advantages are obvious: maximum machine utilisation and minimum idle times.

Ideas of customers are incorporated into our products

Despite an ambitious timetable, what was important throughout the development process was to precisely analyse and implement the range of different feedback from customers. Following the technical feasibility study, the project moved seamlessly onto the implementation phase. “The working relationship with Product Management was extremely effective. We had plenty of high-quality input. This enabled us to get a precise idea of which properties the Schmidt CJS-DI needed to have,” explains Clemens Schwörer, development engineer for snow clearance with the ASH Group.

The modular principle

The machine is built according to the modular principle. This means: Depending on the requirement, the customer can choose between a mounted spreader, sprayer or a combined device. Of course, Aebi Schmidt’s tried-and-tested airport technology was again used. For example, the machine still impresses in the usual way with supreme clearing performance and the most efficient de-icing thanks to its intelligent assistance systems. The AirportLogic de-icing guidance system massively reduces the amount of de-icing agent used, which minimises the consumption costs. Furthermore, the access to and arrangement of the components has been optimised. This allows the airport to benefit from even shorter servicing times.



Highlights 2017 Production Facilities

Being lean means becoming more efficient. By 2022, all ASH Group plants will implement all Lean Standards that are mandatory for maximum success.



St. Blasien, Germany

The St. Blasien location implemented an environmental management system conforming to ISO 14001 at the competence centre in St. Blasien and the LSO in Germany. The audit was conducted by TÜV Süd in November 2017 and ended with a recommendation for certification.



Cleveland and Lindenwood, USA

Both U.S. factories improved their processes significantly and prepared the facilities for the central changes in production and logistics. The factory in Lindenwood installed an extraction system that filters the pollutants released during stainless steel welding operations via a central high-vacuum turbine. This reduces the pollutant concentration in the air while substantially increasing the cleanliness at the workstations.



Kielce, Poland

The factory in Poland extended its paint shop and is now preparing at full speed for the ISO 14001 certification.



Burgdorf, Switzerland

The transporter production line in Burgdorf was further optimised in line with the lean standardisation, in addition to improving the assembly processes – thanks to the enhanced collaboration between the assembly line and development. As a result, the productivity was increased by 4% and the stock levels were reduced by 30% in the year under review.



Holten, Netherlands

The Holten branch won the regional “Smart Manufacturing Award” of Koninklijke Metaalunie (Royal Metal Union), the organisation for small and medium-sized enterprises active in the metal industry. This regional award now qualifies the team for the national competition “Smart Manufacturing Award” in 2018. As one of the first companies in the industry, Aebi Schmidt Netherlands achieved the GRI Application Level C and received the ISO 14001 and ISO 26000 (ASNL) certifications. In 2017, a project was launched with the goal of covering 50% of the energy consumption by solar panels.

Board of Directors



Walter T. Vogel
Chairman of the Board of
Directors (until 31.12.2017)
Swiss citizen
1957



Dr. Gero Büttiker
Vice President
Swiss citizen
1946



Peter Spuhler
Member of the
Board of Directors
Swiss citizen
1959



Dr. Peter Ramsauer
Member of the
Board of Directors
German citizen
1954



Hansruedi Geel
Member of the
Board of Directors
Swiss citizen
1956



Peter Muri
Member of the
Board of Directors
Swiss citizen
1958



Andreas Rickenbacher
Member of the
Board of Directors
Swiss citizen
1968

**Dipl. Masch.-Ing. ETH
Zurich**

Since 2015: Chairman of the Board of Directors, ASH Group, 2007–2015: CEO ASH Group, 2003–2007: CEO Von Roll Holding AG, 1999–2003: Von Roll Group, Head of the Infratec Division and Member of the Group Management, 1995–1999: HILTI AG, Head of Direct Fastening Business Unit and Member of the Extended Group Management, 1992–1995: Aliva AG, Marketing and Sales Director and Member of the Management Board

**Dipl. Bau-Ing. ETH Zurich,
Dr. oec. publ.**

Since 1993: Self-employed entrepreneur, 1985–1993: NUEVA Holding AG (formerly Schweizerische ETERNIT Holding AG), Delegate of the Board of Directors

**lic. oec. HSG
Entrepreneur**

Since 1989: Majority shareholder (83%) and CEO Stadler Rail AG, Bussnang (to Dec. 2017). Other activities and interests: Chairman of the Board of Directors Stadler Rail AG, Bussnang, in various companies of the Stadler Rail Group and PCS Holding AG, Warth-Weiningen, Member of the Board of Directors, Walo Bertschinger Central AG, Zurich, Allreal Holding AG, Baar, Rieter Holding AG, Winterthur, DSH Holding AG, Warth-Weiningen, Wohnpark Promenade AG, Frauenfeld, Vice President ZLE Betriebs AG, Zurich, 1999–2012: Member of the Swiss Parliament (National Council)

**Dipl. Kaufmann,
Dr. oec. publ.**

Since 1990: Member of the German Bundestag, since 2018: Chairman of the Committee for Economic Cooperation and Development in the German Bundestag, 2009–2013: Federal Minister for Transport, Building and Urban Development, 2005–2009: Chairman of the CSU regional faction in the German Bundestag, personally liable partner of Ramsauer Talmühle KG in Traunwalchen, Bavaria Board of Directors

**lic. oec. HSG, Qualified
Public Accountant**

Since 2017: PCS Holding AG, Finance and Investment Management, 2001–2017: CFO Stadler Rail Group, 1994–1997: CFO Lüchinger+Schmid Group, 1990–1994: CFO Elektronikgruppe FELA, 1981–1990: PwC, Public Accountant

lic. iur. Solicitor

Since 1994: Owner of a lawyer's office in Weinfelden specialized in economic and revenue law, Member of the Board of Directors in various in various SMEs for example Gerlinger Industries AG, Kissling Swiss Switches AG, KMU Personal AG, Polygal AG, Rausch AG Kreuzlingen (SSI AG), TLA Transport Logistik Swiss AG, SwissChem AG, Kifa AG, SUN Bürglen AG, Arbenz+Partner AG Risk Service as well as Board member of chamber of Industry and Commerce Thurhau

Master of Science (M Sc)

Since 2016: Owner of Andreas Rickenbacher Management AG, Bern, 2006–2016: Member of the government of the Canton of Berne (2013–2016: Chairman of the Conference of Directors for Swiss National Economy) Member of several boards of directors for example: Bernexpo AG, HRS Real Estate AG, Swissgrid AG

Management Board



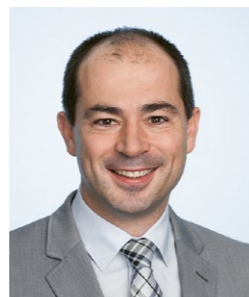
Barend Fruithof
CEO
(since 1 March 2017)
Swiss citizen
1967

Executive MBA, University St. Gallen
2015–2016: Bank Julius Bär & Co. AG, Head of Switzerland & Global Custody, Member of the Management Board, 2008–2015: Credit Suisse Group, Zurich, Head of Corporate & Institutional Clients, Member of the Management Board, Credit Suisse Switzerland, Member of Divisional Management Private Banking, 2004–2007: Raiffeisen Group Switzerland, St.Gallen, Chief Financial Officer and Head of Finance & Corporate Centre Department, Member of the Management Board, 2001–2003: CEO Viseca Card Services SA, Glattbrugg, 1997–2000: ZKB, 1997: EURO-PAY (Switzerland) SA, 1992–1996: ZKB



Thomas Schenkirsch
CFO
Swiss and German citizen
1975

Dipl. Betriebswirt
Since June 2016: CFO ASH Group, 2008–2016: Director Group Controlling ASH Group, 2003–2008: Corporate Controller and Head of Corporate Controlling and Head of Corporate Controlling Von Roll Management AG, Switzerland, until 2003: Financial Analyst Perkin-Elmer, Switzerland, and Senior Treasury Analyst PerkinElmer, Boston, USA



Marco Studer
COO
Operation Switzerland
Swiss citizen
1976

Dipl. Automobil.-Ing. FH
Since 2016: COO Operation Switzerland, 2011–2016: Operational management of Division Aebi, 2008–2010: Aebi & Co Maschinenfabrik, Head of Assembly, 2006–2008: Mercedes-Benz Automobil AG, Branch Manager NF Wetzikon, 2001–2006: Mercedes-Benz Automobil AG, Service Manager and Deputy Manager NF Schlieren



Jochen Schneider
COO
Operations Global
German citizen
1962

Dipl.-Wirtsch.-Ing. Darmstadt University
Since 2016: COO Operations Global, 2012–2016: Head of Division Schmidt, 2004–2012: Managing Director FAUN Umwelttechnik GmbH & Co. KG, 2000–2004: CEO Dätwyler Inc. Rubber + Plastics Automotive, 1996–2000: Vice President & Partner ABB Business Services Ltd, 1991–1996: Colgate Palmolive



Christian Stryffeler
CCO Sales
Europe & North America
Swiss citizen
1964

Dipl. Chem. Ing. FH/MBA
Since June 2017: CCO Sales Europe & North America, 2016: CCO Sales and Markets Global/Airport ASH Group, 2015–2016: CEO Mecalac Baumaschinen GmbH, 2004–2015: Executive Vice President, Machines Division, Ammann Group, 1998–2004: Area Manager and Member of the Management Board Novartis Training Centre



Rudi Rosenkamp
CCO Global Sales
Dealer / Airport
Dutch citizen
1963

Dipl. Ingenieur
Since June 2017: CCO Global Sales Dealer/Airport, 2013–2017: Head of Division Sales & Service, ASH Group, 2010–2012: Head of Direct Marketing Department, 2008–2010: Head of Service Department, 2004–2008: Sales management in the Netherlands



Johannes Schade
CPO
Product Management/
Technology
German citizen
1981

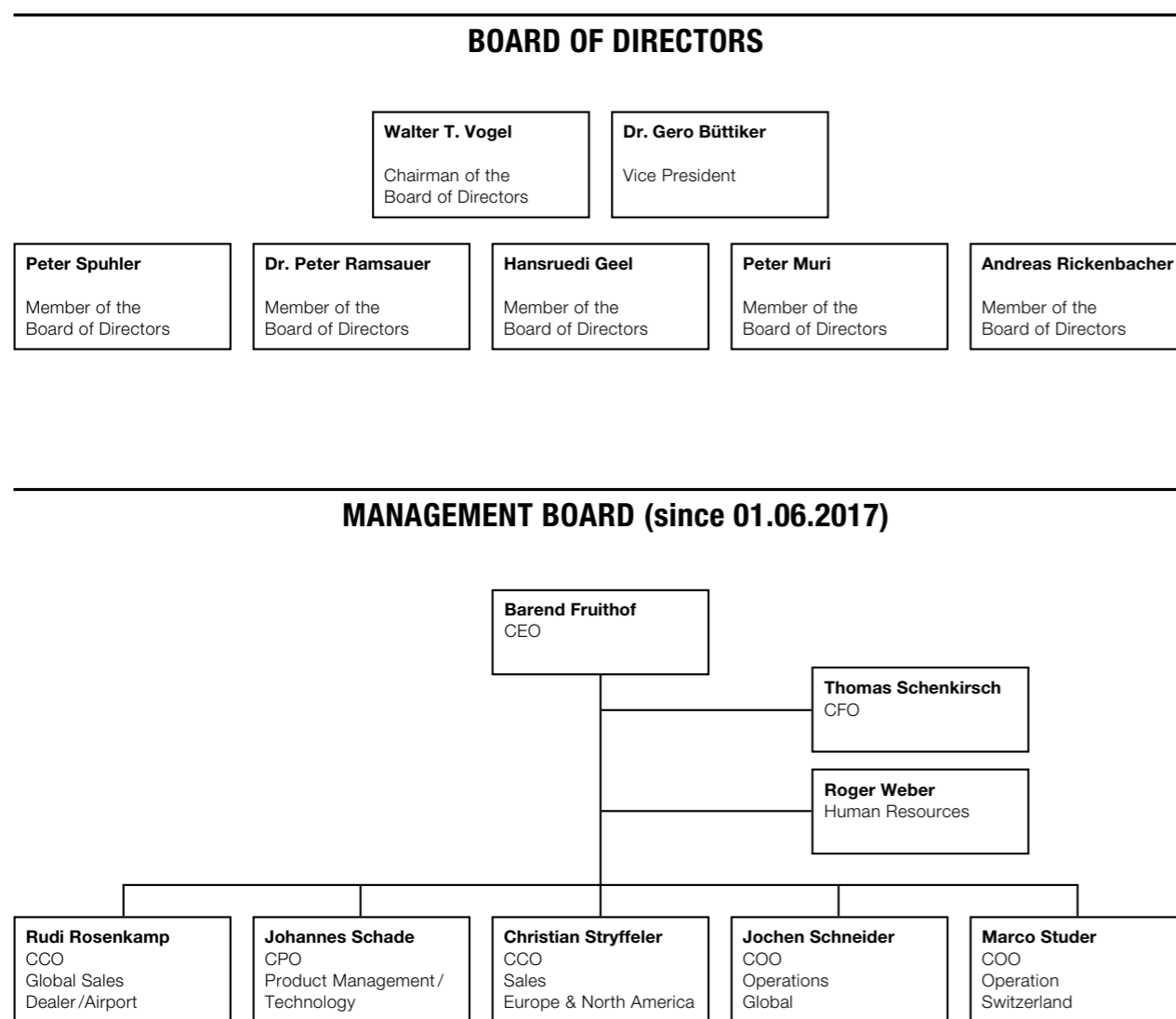
Dipl. Wirtschaftsingenieur Master of Business Administration (MBA)
Since June 2017: CPO of ASH Group, 2015–2017: Divisional Manager Product Management Division Operations Global of the ASH Group, 2012–2015: Managing Director of Hella Ireland Ltd in Dublin, 2008–2012: Business Development & Project Management Wholesale/Strategy & Expansion at Hella KGaA Hueck & Co., 2004–2008: Trainee & Controller at tesa Werk Offenburg GmbH



Roger Weber
CHRO
Swiss citizen
1965

Dipl. Bankkaufmann
From May 2016 to December 2017: Global HR Manager ASH Group, 2008–2015: Global HR Manager of automotive supplier WEIDPLAS (formerly Weidmann Plastics Technology – WICOR Group), 1985–2007: work in the banking and telecommunications as well as the hearing aid industry

Group Structure



Sustainable Value Creation through clear Management and Control Principles

Aebi Schmidt Holding AG, with registered office in 8500 Frauenfeld, Schulstrasse 4, and another business address in 8050 Zurich, Leutschenbachstrasse 52, is a public limited company under Swiss law.

The Board of Directors and the Management Board attach great importance to proper business management in the interest of customers, business partners, employees and shareholders. The basis for this is provided by the company's statutes and organisational regulations. Their implementation and consistent application ensure the required transparency for stakeholders to assess the company's quality.

Group structure

The organisational structure was adapted on 1 June 2017 and is shown on page 36. The managerial responsibility for the ASH Group lies with the CEO, unless it is delegated to the Division Managers. The managerial responsibility for the divisions is incumbent upon the Division Managers. The parent company of all group companies is Aebi Schmidt Holding AG. For an overview of all group companies that belong to the consolidated entity, please see page 54 of this report.

Shareholders

Aebi Schmidt Holding AG is owned by the following shareholders:

SHAREHOLDERS	
PCS Holding AG, Switzerland (owner: Peter Spuhler)	57.06%
Gebuka AG, Switzerland (owner: Dr. Gero Büttiker)	38.35%
Other members of the Board of Directors and the Management Board	4.59%

Capital

The fully paid-up equity capital of Aebi Schmidt Holding AG amounts to CHF 27 932 000 and is subdivided into 2 793 200 registered shares, each with a nominal amount of CHF 10. Each registered share constitutes one vote at the general meeting. All shares entitle to share in profits. There is neither approved nor conditional capital. The transfer of shares, whether for ownership or usufruct, is subject to the approval of the Board of Directors. The approval can be withheld for a good cause. The equity capital has remained unchanged since 4 July 2007.

Board of Directors

The Board of Directors is usually elected within the scope of the annual general meeting for the period of three years; the term of office ends on the date of the next annual general meeting. Members newly appointed during a term of office complete the term of office of their predecessors. Re-election is permissible. The Chairman of the Board of Directors is elected in the general meeting. Apart from this, the Board of Directors constitutes itself.

The Board of Directors is in charge of the executive management, supervision and control of the Management Board of the ASH Group. The Board of Directors is responsible for all matters delegated to its members under statutory law and the statutes, unless the Board of Directors delegates them to third parties. Except as otherwise provided in statutory law or in

the statutes, the Board of Directors fully delegates the operational management to the CEO of the ASH Group, who is supported in this task by the remaining members of the Management Board according to the authorities assigned to them. The CEO is accountable to the Board of Directors. All members of the Board of Directors are non-executive.

The board meeting is convened upon invitation by the Chairman as often as business matters require and as soon as requested by a member, although usually four times a year. A meeting usually takes half a day to one day. The notice of invitation contains all items that are dealt with. The attendants to the meeting receive an extensive written documentation of the proposals in advance. Besides the Board of Directors, these meetings are attended by the Management Board, which has no voting rights. The resolutions are passed by all members of the Board of Directors. The Board of Directors constitutes a quorum if the majority of its members are present. The resolutions are passed by a majority of the votes cast. In the event of a tie, the Chairman has the deciding vote.

The Board of Directors appoints an Audit Committee consisting of three members, currently comprising Hansruedi Geel, Dr. Gero Büttiker and Peter Muri. The Audit Committee is the point of contact for the external auditors, holds a meeting at least once a year and is entitled to prepare the company's annual financial statement for inspection by the external auditors as well as to discuss the results of the audit with the external auditors at the end of the audit.

The meetings are usually attended by the CEO and the CFO and, if necessary, a representative of the external auditors. The Audit Committee makes no final decisions. It prepares the business transactions assigned to them and files proposals to the full Board of Directors.

Information and control instruments

The Board of Directors is in charge of supervising the ASH Group's internal control systems, which limit, but cannot rule out, the risk of inadequate business performance. These systems provide adequate, although no absolute, protection against substantial misstatements and pecuniary loss.

The Board of Directors is extensively informed of the business development on a monthly basis. The members of the Board of Directors are provided with a monthly report containing up-to-date information on the business development and the transactions of the ASH Group. At the board meetings, the Management Board presents and comments on the business development and tables important issues.

Additionally, the Board of Directors adopts the budget for the following year. Once a year, it receives the results of the medium-term plan for the next four years and discusses and resolves adaptations to the corporate strategy. The Board of Directors and the Audit Committee additionally determine factual issues that are taken up within the scope of the internal controlling processes and elaborated by analyses and assessments. The Audit Committee also determines major issues concerning the definition of the scope and the contents of the external audits. Once a year, the Board of Directors deals with the strategic issues of the ASH Group within the scope of a strategy meeting. The Chairman of the Board of Directors and the CEO regularly inform each other of and discuss all business transactions that are of fundamental significance or might have far-reaching consequences.

The Board of Directors subjects the internal information and control systems to a periodic inspection regarding their effectiveness to identify, assess and cope with risks associated with the business activities.

Risk management

The Board of Directors and the Management Board attach great importance to the careful handling of strategic, financial and operational risks. The risk assessment is determined by the Risk Controlling Manual, which was approved and introduced by the Board of Directors within the scope of its meeting of 9 September 2008. Based on periodic and systematic risk identification, the relevant risks for the ASH Group are assessed regarding their probability of occurrence and their effects. These risks are avoided, limited or passed on by taking corresponding measures. The last risk assessment was conducted by the Board of Directors in October 2017. It is incumbent upon the Management

Board to identify and communicate the substantial risks to the Board of Directors.

Management Board

The CEO is in charge of the management of the ASH Group. Under his direction, the Management Board deals with all relevant issues, makes decisions within the limits of its authority and files proposals to the Board of Directors. The Division Managers are responsible for the development and achievement of their entrepreneurial goals and the independent management of their divisions. The Board of Directors appoints the Management Board; the CEO is entitled to file proposals. The board meeting is convened if requested by a member or if a meeting is necessary, usually once a month.

Shareholders' participation rights

The general meeting is convened by the Board of Directors, if necessary, by the Audit Committee. The annual general meeting takes place once a year within 6 months after closing the business year. The Annual Report and the Audit Report are sent to the company's registered office no later than twenty days prior to the annual general meeting. Extraordinary general meetings are convened as necessary. The Board of Directors shall convene an extraordinary general meeting if requested in writing by shareholders representing at least 10% of the share capital, indicating the purpose and the proposals. The general meeting is convened by letter to the shareholders no later than twenty days prior to the date of the meeting. Besides the date, time and place of the meeting, the items listed on the agenda as well as the proposals of the Board of Directors and the shareholders shall be indicated in the notice of convocation. No resolutions can be passed on items that are not announced in this manner with a proviso to the regulations regarding general meetings attended by all shareholders (universal meetings).

Provided that no objection is raised, the representatives of all shares can hold a general meeting without having to com-

ply with the formal requirements of convocation (universal meeting). As long as the owners or representatives of all shares are present, this meeting is entitled to discuss and pass valid resolutions on all items within the limits of the general meeting's authority.

There is no statutory limitation of voting rights. Registered shareholders whose names are entered in the company's share register are eligible to vote. Each shareholder can have himself represented by another shareholder provided with a written power of attorney.

Pursuant to Art. 703 OR [Swiss Law of Obligations], resolutions of the general meeting shall be passed by absolute majority of the represented voting shares. Resolutions listed in Art. 704 OR as well as resolutions regarding the conversion of registered shares into unregistered shares, which requires at least two-thirds of the votes represented and absolute majority of the nominal share value represented, shall be exempted from this regulation.

External auditors

In 2014, PricewaterhouseCoopers AG, Zurich, assumed the mandate as the external auditor of Aebi Schmidt Holding AG. The senior auditor Stefan Räbsamen has been in office since then.

The inspection and supervision of the audit is incumbent upon the Audit Committee. The external auditors draw up an extensive report on the results of their audit on an annual basis. The Audit Report is accompanied by a management letter and a comprehensive report to the Board of Directors.

Compliance

The ASH Group distributes a large portion of its products in the environment of public institutions (federal states, cities, municipalities, motorway and airport operators) and therefore pays special attention to always complying with all applicable national and international regulations.

The term compliance stands for compliance with standards, laws and industri-

al standards as well as any requirements within the scope of self-regulatory measures or in-house directions. In the past business year, the ASH Group examined the existing compliance regulations and processes and adapted them to amended and new statutory requirements, where necessary. Today, the ASH Group exhibits a well-balanced overall system to fulfil the ever more complex issue of compliance.

The major elements of compliance are as follows:

- Code of Conduct – Defines the fundamental values of our employees' activities.
- Competence regulations – Defines the competencies within the company.
- Risk management – The Management Board examines the risks of the ASH Group on behalf of the Board of Directors and defines measures to avoid, limit or pass on the risks. One of the identified risks explicitly deals with compliance risks. A "risk officer" and risk limitation measures were defined for these risks as well; the implementation of the measures is inspected on an annual basis and adapted, where necessary.
- ICS (Internal Control Systems) – The risks identified by the persons in charge of the processes are examined within the scope of appropriate inspections. The inspections are reviewed by the Management Board on an annual basis and, where necessary, adaptations are requested from the Board of Directors.
- The process of checking existing and new dealers and agents was supplemented and a Compliance Board was introduced. The dealers and agents must undergo an extensive inspection and sign an agreement amended by the new compliance regulation. The Compliance Board holds meetings as required and decides whether or not any transactions can be effected with the respective dealer or agent.
- The inspection of customers and the dual-use inspection were tightened, especially in the spare parts business. The export regulations demand compliance and verification that no goods or

services are provided to a person or institution prohibited by an official authority from being supplied and whether or not the regulations for goods that can also be used for military purposes are complied with. Last year, the list of affected persons and institutions was constantly extended due to political upheavals. Using the newly introduced processes and IT-based check programmes, the inquiries can be carried out efficiently and promptly.

- The international sales team completed a training conducted by external specialists to further raise awareness of compliance and improve communication.

The ASH Group is convinced that the principle of conducting business transactions in a responsible manner and in compliance with the statutory and official regulations of the countries in which we are operating is feasible and that the high compliance requirements will develop to become an integral part of our business model. The ASH Group is making every effort to constantly improve its compliance system in order to be able to respond to the changing requirements in our global business.

Thinking ahead and acting in a responsible manner

Thinking ahead and acting in a responsible manner are the main pillars of the ASH Group's economic success, which is why sustainability is firmly embedded in the corporate strategy and integrated throughout the value chain.

Sustainability is also one of the top priorities of our customers. They pay very close attention to the environmental performance and fuel consumption of our vehicles and equipment. For instance, the trend goes towards spaying and spreading mixtures that contain less salt and more brine. The European standard for spreaders and the distribution of spreading material is entitled EN 15597-2 and will take effect in spring 2018. We believe that this trend will continue – and we will keep up with it. Our Combi Flex spreader, for example, features an improved spreading quality, saves salt and thereby protects the environment.

The goal of the ASH Group: making our customers successful, not least by promoting the model of circular economy.

Reducing fuel consumption and the related CO₂ emissions has become a critical success factor in tendering. Electric motors are increasingly sought after by municipalities, cities and airports. In response to that, we were working flat out on the first fully electric and zero-emission

sweeper in the year under review, which will be launched on the market in 2018.

However, the requirements of our customers are not confined to sustainable products, but also relate to sustainable business management: energy and waste management at the production facilities as well as social aspects for employees and the society. For example, some countries are calling for the employment of people who are at a disadvantage in the labour market.

Challenges, opportunities and use of sustainability

In the near future, we see ourselves facing a growing scarcity of natural resources, especially in Europe. Besides the negative effect economic activities may have on the global climate change, these activities are using up raw materials. This is one of the reasons why many governments support the sustainable development goals of the United Nations and why the issue of renewability is of crucial significance.

The ASH Group has made environmental and social responsibility its mission for several years, because what is good for our environment and the society is also good for business. Lean production processes and the modular design of products, local suppliers, high-quality and durable products and the support of our customers with the efficient use of our machines result in less wastage, reduced CO₂ emissions and lower social costs.

The goal of the ASH Group: making our customers successful, not least by promoting the model of circular economy. By joining forces with our clients, we can gradually make our world a better place. The most important resource, people and their inventive spirit, must be treated according to the same principle. Sustainable employment and circular economy go hand in hand.

We devoted a separate section to the central topic of circular economy (from page 14/15).

Our priorities and goals in the field of sustainability

For the ASH Group, sustainability also means a real market advantage, because it allows us to stand out against our competitors. And it is also an essential element of our long-term vision – alongside innovate products, a broad range of services and committed employees.

We set the following priorities in sustainability:

- The introduction of the EC, Aebi's electric implement carrier, will now be followed by the introduction of the E-generation with the eSwingo electric sweeper and other products with an electric drive.
- A photovoltaic system is planned to be installed on the buildings in Holten in 2018.
- In the Netherlands, we will be launching a circularity project with students, where various business models and the lifecycles of various products will be calculated.
- We will continue to support our customers in achieving their sustainability KPIs. Depending on the case, this means re-manufacturing, retrofitting or prolonging the service life of their machines and equipment.
- Our product range is to comply with the concept of circular economy in the long term.

We will continue to consistently follow the course we have chosen: efficiency in our machines, efficiency in production and efficiency in customer service. Once implemented in all locations, this will enhance the sustainability of our company.



Barend Fruithof
CEO

In 2018, we will introduce the E-Generation with the electric sweeper, eSwingo. And there will be more products with electric drive in the near future.

Employees

The great commitment of 1500 employees is the driving force behind the development, production and sale of the ASH Group's diverse portfolio of high-quality products. It is their expertise and experience that make it possible to serve a wide range of customers and to remain competitive in an international market.

On the one hand, the global corporate organisation requires flexibility in dealing with the different cultural and job-specific backgrounds of the employees; on the other, group-wide norms and standards need to be defined and implemented to create a consistent framework for all employees.

The strong seasonal variations in incoming orders place particularly high demands on the human resource management. The orders are placed at short notice, especially for products used in winter maintenance. Since advance manufacturing would involve considerable risks because the products are often configured to customer specifications, careful preparation is essential. If necessary, additional

temporary workers are hired. However, the ASH Group endeavours to cover order peaks with the regular employees whenever possible.

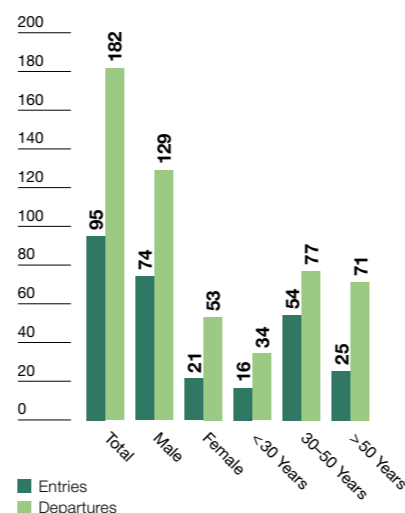
Attractive working environment

The good situation in the labour market makes the recruitment of qualified workforce increasingly difficult. To make working for the ASH Group even more attractive, Aebi Schmidt Germany, for example, offers permanent employment contracts in many cases. The ASH Group is dedicated to ensuring a high level of satisfaction at the workplace in daily work routine. Company outings, practice and family days as well as health campaigns contribute to a good working atmosphere and enhance the well-being of the employees. The ASH Group remains committed to ensuring perfect working conditions for the employees, allowing them to work without any distractions.

The ASH Group considers the staff's diversity to be an asset that needs to be protected and promoted. The company is dedicated to ensuring that all employees are given equal opportunities. Moreover, the fair and non-discriminatory interaction within the company and with business partners is one of the basic prerequisites for long-term partnerships and is therefore firmly embedded in the corporate culture. The binding group-wide Code of Conduct defines central values and standards which all employees undertake to

FLUCTUATION BY GENDER AND AGE GROUP*

in absolute numbers



* Only regular employees

observe in writing. The superiors, in particular, are required to lead by example, promoting and monitoring compliance with these standards in daily business routine. In the event of any questions or complaints, the employees can contact the Compliance Officer. In 2017, there were no registered cases of discrimination.

Employees at several business locations are covered by collective agreements. This applies to all employees in Germany and the Netherlands, to 56% in the U.S. and to 9% in Poland. In Poland, employees can have their overtime hours compensated over a period of twelve months according to an agreement with the trade unions. In Switzerland, 90% of

all employees are subject to the collective bargaining agreement of Swissmem. (GRI 102-41)

Occupational safety and health as the top priority

The health and safety of employees are a top priority. Of course, the ASH Group complies with all corresponding statutory regulations. In addition, it implements further preventive healthcare measures within the scope of occupational safety management. These include internal regulations and the Code of Conduct, safety initiatives and regular information events. As part of training courses on occupational safety and health, the employees are additionally instructed about dealing with risks and hazards in daily work routine. After having had positive experiences with so-called return-to-work interviews in the U.S. and in Switzerland, the ASH Group also introduced such interviews at the other business locations. The interviews help reintegrate employees into the daily work routine after longer periods of absence due to an accident or illness. At the end of 2017, Aebi Schmidt Germany introduced a healthcare preven-

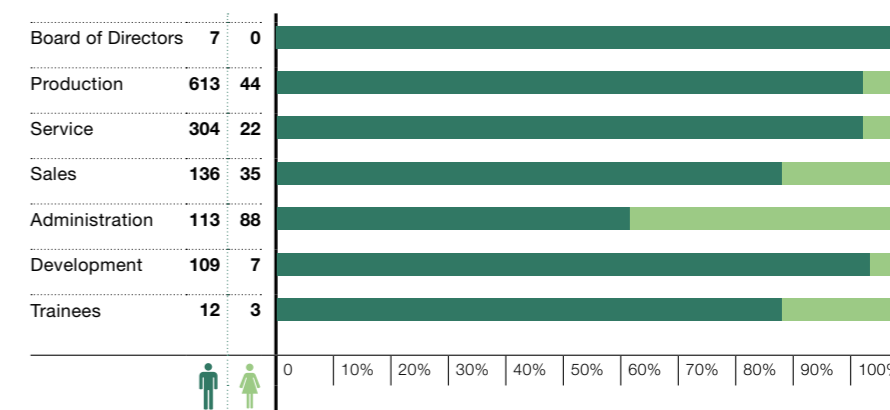
Our diverse workforce provides added value that needs to be protected and promoted. We want to make sure that all employees receive the same opportunities.

tion programme in collaboration with Deutsche Rentenversicherung (German Statutory Pension Insurance Scheme), which will be carried on in the years to come.

To monitor hygiene and safety at the workplace, Aebi Schmidt Poland performs audits at an interval of three years. In addition, a safety committee provides recommendations to improve occupational safety on a quarterly basis. At the business location in Poland, a weekly safety inspection is performed to check whether the personal safety equipment is in proper condition and whether it is used by the staff as prescribed. Aebi Schmidt North America holds monthly safety meetings with the staff members and addition-

WORKFORCE BY CATEGORY*

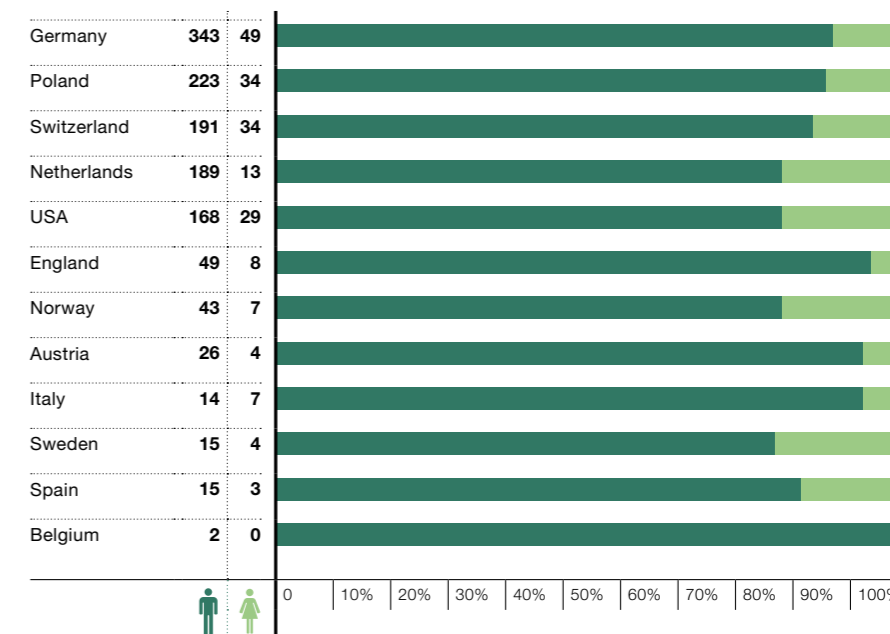
in full-time equivalents



* excl. apprentices, interns and temporary agency workers

WORKFORCE BY COUNTRY AND GENDER*

in full-time positions



* excl. apprentices, interns and temporary agency workers

COMPOSITION OF THE WORKFORCE

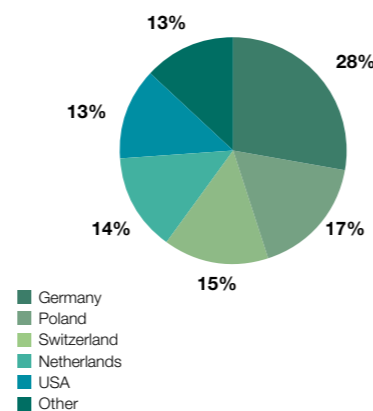
in full-time positions (as of 31.12.2017)

	Male	Female	Total
Workforce by employment contract			
Permanent	1 277	193	1 470
Temporary*	87	11	98
Workforce by workload			
Full-time	1 220	150	1 370
Part-time	57	43	100

* excl. 80 apprentices, trainees and temporary agency workers

EMPLOYEES BY COUNTRY*

2017



OCCUPATIONAL SAFETY AND HEALTH

Numbers per 100 full-time positions

	Male	Female	Switzerland	Other Locations	All
Injuries	5,8	0,7	1,4	6,0	5,2
Days lost as a result of injury	136,5	3,2	71,1	132,3	121,5
Days lost as a result of injury and illness	957,0	752,0	558,0	1 014,0	934,0

Rates were calculated for 200 000 working hours (= 100 full-time positions). There were no fatalities. The data represents a weighted average of all incidents (actual number of incidents weighted by the number of target hours).

ally examines workplace safety on a quarterly basis. To support healthcare prevention, the factories in Cleveland and Lindenwood offered their employees free influenza vaccinations. The business locations in Cleveland, USA, and Holten, Netherlands, additionally introduced a healthcare programme to promote exercise and a healthy diet.

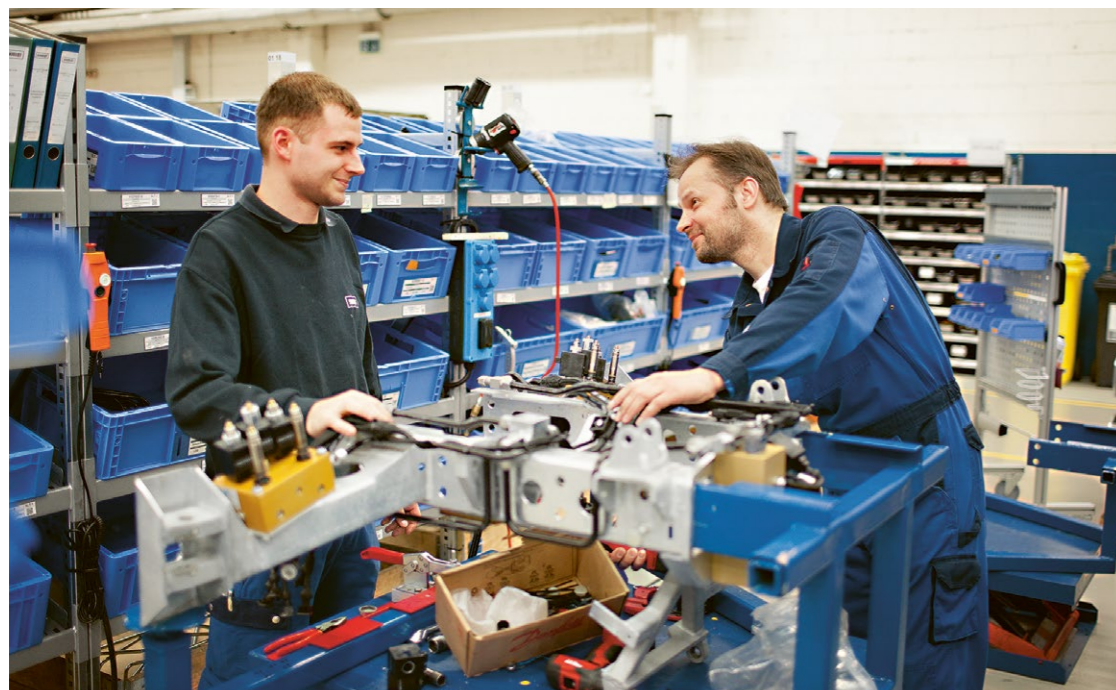
In 2017, the factory in Lindenwood installed a new extraction system with a central high-vacuum turbine that conducts harmful fumes released during stainless steel welding operations into an incineration plant via several filters. As a result, the employees are now exposed to significantly lower pollution levels, while the air quality and the cleanliness of the systems were improved as well.

Training and continuing education

The ASH Group is reliant on well-trained, skilled and experienced staff to ensure long-term business success. In view of the shortage of skilled workers, the training and continuing education of the existing skilled personnel is of great significance. The management of the respective ASH business location is responsible for the integration and professional development of the employees so that their potential can be harnessed in value creation.

All training and continuing education measures are planned after completion of

the annual performance reviews. In 2017, performance and career development was discussed with about 75% of all employees throughout the group. Whereas training courses on specialist technical knowledge are only relevant to individual groups at the production facilities, product training is offered throughout the group. The ASH Group organises other training and continuing education programmes based on the employees' individual needs and the corporate strategy. This way, methodological knowledge, technical skills as well as process management and team-building skills can be promoted specifically. Continuing education is promoted at all business locations by offering internal and external programmes as needed.



Health and safety at work are a top priority

Community

As an employer whose business locations are situated in regions with a weak infrastructure, the ASH Group makes a significant contribution to local employment and has a substantial influence on the economic development of the regions.

The selection of suppliers from the areas surrounding the factories has both positive economic and ecological effects by reducing transport costs and emission levels.

Collaboration along the supply chain

In 2017, the ASH Group purchased products and services from about 1800 suppliers, among them both small and medium-sized and large enterprises from a wide range of industry sectors. The most important product categories include steel, stainless steel, welded assemblies, engines as well as hydraulic and electronic components. The ASH Group is backed by a network of specialised local suppliers to take care of specific finishing work.

For the products of the Aebi brand manufactured in Switzerland and the vehicles of the Schmidt brand manufactured in various European countries, the majority of the suppliers come from Europe. The products are consolidated and delivered to the production facilities by two logistics partners. Regarding key suppliers, the ASH Group places a focus on central procurement, which is supplemented by decentralised, logistically optimised procurement from the surroundings of the respective business locations. In Asian countries, smaller volumes are procured directly via specialised dealers. In 2017, the purchasing volume amounted to EUR 90 million for products of the Schmidt

brand and CHF 40 million for the Aebi products. Aebi Schmidt North America purchased products and services worth about USD 24 million from 230 suppliers, with the majority of the purchased deliveries coming from the U.S. and Canada, very often even from the immediate vicinity of the factories. The factories in Cleveland and Lindenwood were integrated into the group-wide purchasing concept in 2017, now being also served by world-wide suppliers already supplying the European factories.

The ASH Group classifies suppliers based on the ABC principle, which enables targeted collaboration and good relationship management. The expectations for the collaboration are clarified and potential improvements discussed either directly, by organising supplier days or by conducting targeted evaluations. The structured supplier management makes it possible to evaluate and classify all suppliers with regard to processes, quality, energy consumption, environmental policies as well as ISO 9001 and 14001 certifications. The latter are increasingly gaining significance in a market where customers pay ever more attention to sustainability and have become a key unique selling proposition for the ASH Group. By passing on these requirements to the suppliers, the company increases the value of incoming and outgoing goods while also streamlining its supply chain.

A survey among the major suppliers of the Holten location, for example, demonstrates that considerable progress was

The qualification process for new suppliers includes the evaluation of environmental aspects, such as the recycling of raw materials and the reduction of CO₂ emissions.

again made in 2017. Aebi Schmidt Netherlands terminated the collaboration with fourteen critical suppliers and replaced them with six new suppliers. In the course of the changeover from galvanisation to a powder coating technique for corrosion protection, three additional Dutch suppliers were replaced.

All suppliers are checked for sustainability on an annual basis. Non-sustainable suppliers are continuously replaced. However, the customers' willingness to pay for products whose enhanced environmental benefits entail a higher pur-

chase price continues to represent a challenge for the ASH Group.

The qualification process for new suppliers includes the evaluation of environmental aspects, such as the recycling of raw materials and the reduction of CO₂ emissions. Furthermore, all suppliers are subjected to a compliance check to ensure that the companies have not gained an economic advantage through either corruption or illegal practices. However, it is not compulsory for new suppliers to sign a supplier code.

Exchange with stakeholders

The ASH Group's business success is based, among other factors, on the regular exchange with employees, customers, suppliers, business partners, trade associations, municipalities, regional authorities and research institutions (GRI 102-40/ 102-42). Customer requests, in particular, are taken into account in detail to design tailor-made products. For example, a "Cleango" sweeper with about 40 specifications, including a data controller that permits the monitoring of service data, was manufactured for the city of Amsterdam. As was the case in the previous years, customers again placed a strong focus on environmental aspects in 2017. For example, the goal is often to reduce the consumption of salt in the spray mixtures in winter maintenance. In municipalities and at airports, carbon-neutrality is becoming an ever more important purchase criterion. (GRI 102-44)

The ASH Group informs its stakeholders about its activities, progress and objectives in the Annual Report. In order to allow more in-depth communication with the stakeholders regarding economic, social and environmental topics, the company conducts surveys and is involved in various committees and associations. The PM-10 particulate matter certificate, which has been developed by leading sweeper manufacturers in collaboration with a renowned research centre, is only one example of such successful exchange. The test seal shows the performance of sweepers as regards particulate matter and has developed to become the industry standard. (GRI 102-43)

The associations and committees in which the ASH Group is involved include the European Engineering Industries Association (EUUnited), the DIN Standards Committee on Municipal Technology (NKT) and the Municipal Vehicles and Equipment Industry Association (VAK), which enhanced its focus on “ecological footprint in winter maintenance” in 2017. In addition, the ASH Group is a member of the SWISSRAIL Industry Association, which unites more than one hundred companies from the Swiss automotive and transport industry, and the European International Contractors (EIC) federation, which advocates the interests of the construction industry on an international scale. Aebi Schmidt North America is a member of the National Truck Equipment Association (NTEA), which supports the sustainability efforts of companies from the truck industry and represents their interests. Moreover, the factories in Cleveland and Lindenwood are members of the Member Verification Program (MVP), which honours companies for excellent business practices and the implementation of quality standards. In addition, Aebi Schmidt Poland is a member of the Polish-Swiss Chamber of Commerce.

Taking social responsibility

As part of its social commitment and sponsorship, the ASH Group predominantly supports local sports and social projects. In Switzerland, it sponsors the 2019 Federal Wrestling and Alpine Festival in Zug as well as young wrestlers and an ice hockey club; in the Netherlands, it supports triathlon in Holten. Aebi Schmidt Netherlands also makes regular donations to support various local social projects. In Germany, Aebi Schmidt promotes the junior squad of the Black Forest Ski Association. Furthermore, numerous employees in St. Blasien support students in the Hochrhein-Bodensee economic region in preparing for job interviews. In North America, Aebi Schmidt informs young people about career opportunities every year and helps needy people with food donations.

Corporate values and compliance

The ASH Group follows a group-wide Code of Conduct, which is specified in in-house directives. Along with a clear definition of responsibilities, the continually improved risk management and efficient control systems, the ASH Group makes sure that all statutory provisions and industry standards in a complex regulatory environment are observed and – where possible – exceeded. The Code of Conduct additionally defines the corporate values and applicable ethical standards and addresses environmental protection, fair competition and anti-corruption. The ASH Group conducts regular training courses to raise the employees’ awareness of compliance issues.

In 2017, the corporate values were redefined as part of the development of Strategy 2022. They apply to 1500 employees throughout the globe and are the foundation for the business activities, both within the company and in dealing with customers and partners. The six values are: focus on results, collaboration, customer focus, integrity, commitment and innovation. By defining common values, the ASH Group aims to facilitate the collaboration and make the company more successful in the long term.

The ASH Group also understands by integrity that the operations are in line with the applicable antitrust and competition laws and that all employees refrain from any actions or agreements that would inhibit trade or restrict competition or could make such an impression. The Code of Conduct additionally lays down the rules for handling gifts and other benefits and prohibits any form of bribery.

Corruption risks need to be minimised predominantly in the supply chain. A stricter evaluation procedure for suppliers regarding incidents of non-compliance and sustainability efforts was therefore applied in 2017. Along with the systematic review of corruption risks as part of the strategic supplier development, incidents of corruption were prevented. In 2017, the ASH Group was not involved in any legal proceedings relating to anti-competitive conduct, nor were any fines or non-monetary penalties imposed on it for violations of other laws and regulations.

The ASH Group applies stringent export controls to ensure that civil goods

and, in particular, spare parts cannot be used for military purposes (dual use), particularly for countries on the relevant sanction lists. In a first step, a software solution, referred to as compliance check, compares every new contracting partner – whether supplier, customer or dealer – with the public sanctions lists. Only when the result of this comparison is negative is the new partner registered in the ASH system. As soon as a machine is exported to a country outside the EU, the export control comes into play. In this process, ASH

The Code of Conduct additionally defines the corporate values and applicable ethical standards and addresses environmental protection, fair competition and anti-corruption.

employees compare the technical specifications of the ordered machine with the sanctions list of the Federal Office for Economic Affairs and Export Control (BAFA, Germany) or the State Secretariat for Economic Affairs (SECO, Switzerland) – depending on the country from which the product is to be shipped. If the machine has unauthorised specifications, the ASH Group files an application with the BAFA or the SECO, including detailed information on the product ordered and the intended purpose stated by the customer. In these cases, export only takes place with the approval of the competent authority. This is to ensure that no persons or institutions are supplied which are subject to ban on deliveries imposed by an official body.

Environment

The ASH Group aims to continuously enhance productivity to be able to offer premium-quality products at competitive prices in a hotly contested international market. The economical use of natural resources plays a central role in this process.

The incentives to promote “cleaner” production are also increasingly coming from politics, in particular in the field of energy consumption and emission levels. Not least since the adoption of the Paris Climate Agreement, the production facilities have been required to comply with ever stricter emission limits. In the event of insufficient progress concerning climate protection, negative incentives, such as higher energy taxes, are to be expected. The ASH Group closely monitors these developments and prepares for changes in

the regulatory framework in good time. However, placing a stronger focus on resource consumption not only makes sense for cost reasons, but also helps control the innovation efforts and accommodate changed customer requirements. One of the major challenges for the ASH Group is to keep pace with the extremely rapid technological change.

Reducing the consumption of resources requires an integrated approach. Processes are changed and employees are trained in environmentally appropriate conduct. In addition, environmental performance figures are collected in the fields of energy, emissions and waste to identify additional potential for improvement. The ASH Group complies with all applicable environmental regulations and was neither fined nor punished with non-monetary penalties for violations of environmental laws and regulations in 2017.

Implementing ambitious goals

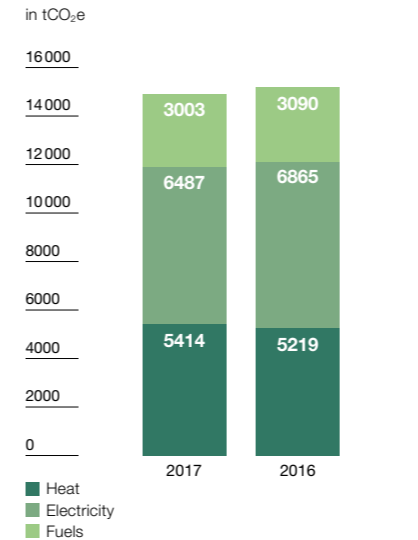
The ASH Group sets itself ambitious goals in environmental protection, aiming to exceed the minimum statutory requirements. Since 2009, all business locations have been ISO 9001-certified. The production facilities as well as the local sales and service organisations in Peterbor-

ough (UK), in Fiume Veneto (Italy), in Burgdorf and Hochdorf (Switzerland), in Skänninge (Sweden) as well as in Holten and Alphen a/d Rijn (Netherlands) are additionally certified according to the ISO 14001 corporate environmental management standard. In 2017, the factory in St. Blasien and the local sales organisation in Germany were successfully certified according to ISO 14001. The factory in Poland is preparing for the certification in 2018. In addition, the entire group observes the guidelines for social responsibility in accordance with ISO 26000.

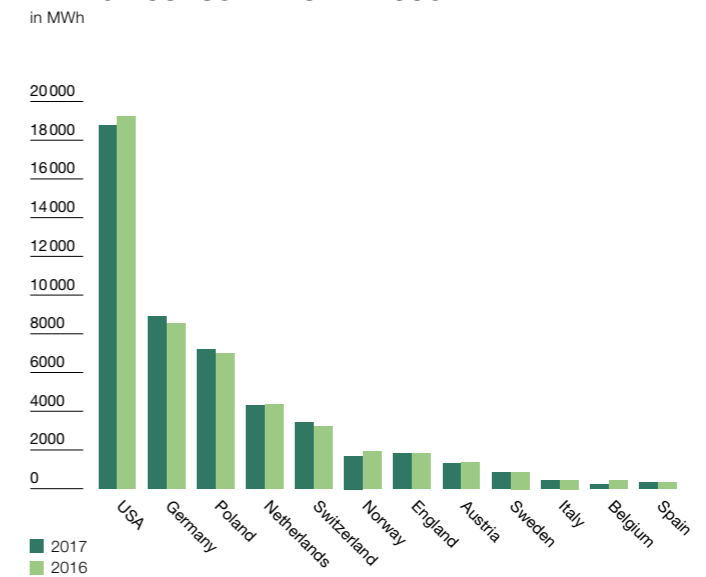
Ensuring success by implementing a great variety of measures

In 2017, the efforts to reduce the consumption of resources were stepped up at various business locations by introducing further measures. In Poland, the ASH Group installed LED lights in the entire factory, reducing the energy costs for lighting by more than 50%. The factory in St. Blasien, Germany, subjected itself to an energy audit, which revealed that the implemented and planned measures, such as the renewal of the transformer system and the introduction of a use-dependent ventilation system, will make it

GREENHOUSE GAS EMISSIONS BY SOURCE



ENERGY CONSUMPTION BY COUNTRY



possible to save about 134 000 kWh over the next three years. In Cleveland, the ASH Group started to install thermostats on heaters. In addition, the gas-fired vapourisation system for process water was improved and the deposits were removed from the heating chamber, resulting in more efficient vaporisation. In Lindenwood, the efficiency of the heating and vaporisation systems was improved as well. The factory in Burgdorf, Switzerland, optimised the groundwater pump, making it possible to further reduce the energy consumption of the auxiliary natural gas heating system. Moreover, the neon signs were equipped with LED lights and the ventilation systems were optimised as regards duty cycles and air volumes in compliance with the applicable regulations. All business locations of the ASH Group rely on energy-efficient machines when replacing old ones and, as far as possible, downsize technical equipment to further reduce the energy consumption.

Besides energy consumption, attention is also paid to continuously reducing the amount of waste and effluents. This way, the ASH Group prevents high disposal costs while also responding to the customers' increased awareness of environmental issues.

Environmental aspects play an important role in the ASH Group's product development, as well as in production and operations.

To reduce the amount of waste, the factory in St. Blasien extended the external supplier Kanban system in 2017. The required production material is thus already delivered in reusable load carriers provided by the ASH Group, eliminating the need for additional packaging material. As part of the Fit-4-Tomorrow project, the factory additionally implemented a new waste concept, which will be launched at all factories in 2018. Waste is separated by type and recycled wherever possible. By replacing paper towels with cloth roll towel dispensers, the factory in Lindenwood not only reduced the amount of waste, but also increased the cleanliness at the factory. The production facility in Burgdorf discussed the issue of waste reduction with various suppliers and thereby managed to significantly reduce the proportion of plastics and cardboard.



The production factories of the ASH Group produce various types of waste. At the Lindenwood business location, for example, a distinction is made between paint, effluents, metal, cardboard, batteries, lamps, oils and solvents. The factory in Poland distinguishes between 36 waste categories. They all have in common that they differentiate between general and special waste. Where waste cannot be avoided, it is sorted according to the disposal code applicable in the respective country or reintroduced into the production process in terms of "circular economy".

ENVIRONMENTAL PERFORMANCE FIGURES

	Unit	2017	2016
Energy consumption	MWh	48 504	48 846
Electricity	MWh	12 486	13 355
Heat	MWh	24 925	24 041
Fuel oil	MWh	4 759	4 481
Natural gas	MWh	19 742	18 927
LPG/Propane	MWh	61	83
District heating	MWh	363	551
Fuels	MWh	11 093	11 449
Diesel	MWh	10 546	10 880
Petrol	MWh	546	570
CO₂ emissions ^{1) 2)}	tCO ₂ e	14 903	15 173
Scope 1	tCO ₂ e	8 336	8 186
Combustibles	tCO ₂ e	5 333	5 097
Fuels	tCO ₂ e	3 003	3 090
Scope 2	tCO ₂ e	6 567	6 987
Electricity ³⁾	tCO ₂ e	6 487	6 865
District heating	tCO ₂ e	81	122
Waste ⁴⁾	t	1 617	1 665
General waste	t	1 186	1 220
Incineration	t	160	136
Residue landfill	t	300	303
Recycling	t	726	781
Special waste	t	431	445
Incineration	t	62	79
Recycling	t	62	43
Other ⁵⁾	t	308	323

¹⁾ Calculations in accordance with the WRI/WBCSD Greenhouse Gas Protocol guidelines (given in tonnes of CO₂ equivalents). Scope 1: CO₂ emissions from e.g. heating boilers and fuels. Scope 2: CO₂ emissions resulting from the production of electricity and district heating.

²⁾ Sources of the emission factors used: Defra, IEA & Frischknecht.

³⁾ Greenhouse gas emissions associated with the consumption of electricity are accounted for in accordance with the "location-based approach" according to the Greenhouse Gas Protocol Scope 2 standard.

⁴⁾ No waste data is available for 2016 for the locations of Casarrubios del Monte, Skänninge and Zurich.

⁵⁾ Absorption and filter material, cleaning cloths, protective wear, scrap from ironworks, laser scrap.

Information on the Sustainability Report

Sustainability at the ASH Group is a group-wide responsibility and is therefore not allocated to an independent department.

After creating separate sustainability reports in 2015 and 2016, the ASH Group is again reporting on its sustainability efforts in the 2017 business year as part of the Annual Report. (GRI 102-49)

The last Sustainability Report was published in May 2017. This report has been prepared in accordance with the GRI Standards: Core option. An external assurance of the contents was dispensed

with. The Sustainability Report of the ASH Group was subjected to the GRI Materiality Disclosures Service and successfully passed it (see GRI icon on p. 51). The Sustainability Report includes all divisions and business locations of Aebi Schmidt Holding AG that are listed in the consolidated entities on pages 16/17 (GRI 102-45). The contact point for any questions regarding the 2017 Annual Report is Cathrin Moser, Group Communication Manager, cathrin.moser@aebi-schmidt.com.

In 2017, the ASH Group's organisational structure was adapted. Firstly, the "Product Management & Technology" division was established; secondly, it was decided to relocate part of the production from Norway to Poland. Additionally, existing back-office functions were consolidated in North America. Restatements of information given in the previous reports were not made. (GRI 102-48)

The material sustainability topics were determined in 2015 as part of an internal workshop, taking into account various functions of the ASH Group as well as the points of view of the group and the individual divisions. External stakeholders were not involved directly in this process. The result was reviewed by the Executive Board. (GRI 102-46)

Essential sustainability topics (GRI 102-47)

ECONOMIC	Economic Performance
	Indirect Economic Impacts
	Anti-corruption
	Anti-competitive Behaviour
ENVIRONMENTAL	Energy
	Emissions
	Effluents and Waste
	Supplier Environmental Assessment
	Environmental Compliance
SOCIAL	Energy-efficient Products and Services
	Employment
	Occupational Health and Safety
	Training and Education
	Diversity and Equal Opportunity
	Non-discrimination
	Customer Health and Safety
Marketing and Labelling	
Socioeconomic Compliance	



Universal Standards

Reference	Disclosure	Page number
GRI 101: FOUNDATION (2016)		
GRI 102: GENERAL DISCLOSURES (2016)		
Organisational profile		
GRI 102-1	Name of the organisation	55
GRI 102-2	Activities, brands, products and services	10
GRI 102-3	Location of headquarters	55
GRI 102-4	Location of operations	54
GRI 102-5	Ownership and legal form	37
GRI 102-6	Markets served	3
GRI 102-7	Scale of the organisation	2
GRI 102-8	Information on employees and other workers	42
GRI 102-9	Supply chain	45
GRI 102-10	Significant changes to the organisation and its supply chain	50
GRI 102-11	Precautionary principle or approach	12
GRI 102-12	External initiatives	keine
GRI 102-13	Membership of associations	46
Strategy		
GRI 102-14	Statement from senior decision-maker	40
Ethics and integrity		
GRI 102-16	Values, principles, standards and norms of behaviour	13, 46
Governance		
GRI 102-18	Governance structure	36
Stakeholder engagement		
GRI 102-40	List of stakeholder groups	18, 45
GRI 102-41	Collective bargaining agreements	43
GRI 102-42	Identifying and selecting stakeholders	45
GRI 102-43	Approach to stakeholder engagement	19, 46
GRI 102-44	Key topics and concerns raised	19, 45
Reporting practice		
GRI 102-45	Entities included in the consolidated financial statements	50
GRI 102-46	Defining report content and topic boundaries	50
GRI 102-47	List of material topics	50
GRI 102-48	Restatements of information	50
GRI 102-49	Changes in reporting	50
GRI 102-50	Reporting period	50
GRI 102-51	Date of most recent report	50
GRI 102-52	Reporting cycle	50
GRI 102-53	Contact point for questions regarding the report	50

Reference	Disclosure	Page number
GRI 102-54	Claims of reporting in accordance with the GRI Standards	50
GRI 102-55	GRI content index	51
GRI 102-56	External assurance	50

Topic-specific Standards

Reference	Disclosure	Omission	Page number
GRI 200: ECONOMIC			
GRI 201: ECONOMIC PERFORMANCE (2016)			
GRI 103-1/2/3	Management approach disclosures (2016)		12
GRI 201-1	Direct economic value generated and distributed		Cover
GRI 203: INDIRECT ECONOMIC IMPACTS (2016)			
GRI 103-1/2/3	Management approach disclosures (2016)		45
GRI 203-1	Infrastructure investments and services supported		46
GRI 203-2	Significant indirect economic impacts		45
GRI 205: ANTI-CORRUPTION (2016)			
GRI 103-1/2/3	Management approach disclosures (2016)		46
GRI 205-2	Communication and training about anti-corruption policies and procedures	*	46
GRI 205-3	Confirmed incidents of corruption and actions taken	*	46
GRI 206: ANTI-COMPETITIVE BEHAVIOUR (2016)			
GRI 103-1/2/3	Management approach disclosures (2016)		46
GRI 206-1	Legal actions for anti-competitive behaviour, anti-trust and monopoly practices		46
GRI 300: ENVIRONMENTAL			
GRI 302/305: ENERGY AND EMISSIONS (2016)			
GRI 103-1/2/3	Management approach disclosures (2016)		47
GRI 302-4	Reduction of energy consumption		48, 49
ENERGY-EFFICIENT PRODUCTS AND SERVICES			
GRI 103-1/2/3	Management approach disclosures (2016)		24
GRI 302-5	Reductions in energy requirements of products	*	24
GRI 306: EFFLUENTS AND WASTE (2016)			
GRI 103-1/2/3	Management approach disclosures (2016)		48
GRI 306-2	Waste by type and disposal method		49

Reference	Disclosure	Omission	Page number
GRI 307: ENVIRONMENTAL COMPLIANCE (2016)			
GRI 103-1/2/3	Management approach disclosures (2016)		47
GRI 307-1	Non-compliance with environmental laws and regulations		47
GRI 308: SUPPLIER ENVIRONMENTAL ASSESSMENT (2016)			
GRI 103-1/2/3	Management approach disclosures (2016)		45
GRI 308-1	New suppliers that were screened using environmental criteria	*	45
GRI 400: SOCIAL			
GRI 401: EMPLOYMENT (2016)			
GRI 103-1/2/3	Management approach disclosures (2016)		42
GRI 401-1	New employee hires and employee turnover		42
GRI 403: GRI 403: OCCUPATIONAL HEALTH AND SAFETY (2016)			
GRI 103-1/2/3	Management approach disclosures (2016)		43
GRI 403-2	Accident and disease statistics		44
GRI 404: TRAINING AND EDUCATION (2016)			
GRI 103-1/2/3	Management approach disclosures (2016)		44
GRI 404-2	Programmes for upgrading employee skills and transition assistance programmes		44
GRI 404-3	Percentage of employees receiving regular performance and career development reviews		44
GRI 405/406: DIVERSITY AND EQUAL OPPORTUNITY/NON-DISCRIMINATION (2016)			
GRI 103-1/2/3	Management approach disclosures (2016)		42
GRI 406-1	Incidents of discrimination and corrective actions taken		42
GRI 416: CUSTOMER HEALTH AND SAFETY (2016)			
GRI 103-1/2/3	Management approach disclosures (2016)		18
GRI 416-1	Assessment of the health and safety impacts of product and service categories		18
GRI 416-2	Incidents of non-compliance concerning the health and safety impacts of products and services		18
GRI 417: MARKETING AND LABELLING (2016)			
GRI 103-1/2/3	Management approach disclosures (2016)		18
GRI 417-1	Requirements for product and service information and labelling		18
GRI 419: SOCIOECONOMIC COMPLIANCE (2016)			
GRI 103-1/2/3	Management approach disclosures (2016)		42, 46
GRI 419-1	Non-compliance with laws and regulations in the social and economic area		46

* Information not completely available

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