Starrag Group

Annual Report
2018

From the metre prototype and tripods to Industry 4.0

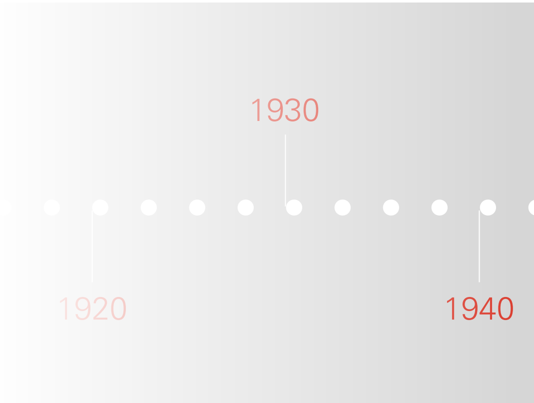
Diversity is a key feature of the Starrag Group in every sense. Our Group develops and produces machine tools for customers in the aerospace, energy, transportation and industrial sectors, who use them to manufacture products like implants, surgical instruments, clock movements, aircraft landing gears and packaging machines.

Yet our success is founded on something that every start-up and every newcomer must patiently acquire over time. It is upheld by a value that cannot be quantified with the mathematical tools of conventional economics, but one that has been a key factor in our success — more so than any patent, system, site or business asset:

our expertise.

This is what sets Starrag apart, not least because the companies within the Group bring together over a thousand years of expertise in machine tool construction.

Find out more on pages 36 – 49.



Top image:
The International Metre Prototype, standard metre bars made of platinum-iridium
(Source: Wikipedia)

1950 1960 1970 1980 1990 2000 2010 2020

Content

High-precision machine tools for greater productivity

Starrag Group is a global technology leader in manufacturing high-precision machine tools for milling, turning, boring and grinding workpieces of metallic, composite and ceramic materials. Principle customers are internationally active companies in the Aerospace, Energy, Transportation and Industrial (Industrial Components, Luxury Goods, Med Tech) sectors. In addition to its portfolio of machine tools, Starrag Group provides integrated technology and maintenance services that significantly enhance customer quality and productivity.

The umbrella brand Starrag unites the product ranges Berthiez, Bumotec, Dörries, Droop+Rein, Ecospeed, Heckert, Scharmann, SIP, Starrag, TTL and WMW. Headquartered in Rorschach/Switzerland, Starrag Group operates manufacturing plants in Switzerland, Germany, France, the UK and India and has established a network of sales and services subsidiaries in the most important customer countries.

The shares of Starrag Group Holding AG are listed on the SIX Swiss Exchange.

Dear shareholders

Amid an economic environment marked by an ongoing multitude of challenges, Starrag Group delivered the anticipated significant increase in order intake for the 2018 fiscal year. New orders surged 32% (+29% at constant exchange rates) to CHF 461 million, which represents the second-highest annual order intake in the company's history, and order intake in the second half even topped the already strong first-half intake. This pleasing order growth is attributed in no small measure to the large orders placed by customers in the targeted Aerospace and Transportation industries. In 2017, conversely, the number of large orders received fell below the long-term historical range.

Sales amounted to CHF 389 million, a decline of 4% from the previous year (-6% at constant exchange rates). This decrease is attributed to delays in the order fulfillment process at some production sites. Corrective action to improve workflow management and optimize the value chain was initiated during the third quarter and has been rigorously implemented in the meantime.

Earnings before interest and tax (EBIT) came in well below the prior-year figure at CHF 11.1 million or a disappointing 2.9% of sales. The reasons for the decline in EBIT can be traced to the aforementioned order fulfillment issues at some production sites and restructuring charges. Due to the lower EBIT, net income of CHF 8.4 million (CHF 2.49 per share) likewise fell below the prior-year figure. Return on capital employed (ROCE) was also well below the year-ago return at 3.8%.

The equity ratio at the end of the reporting period stood at 48%, five percentage points less than in the previous year. This decrease is attributable to the increase in current assets and resulting increase in total assets, while shareholders' equity was virtually unchanged. Higher current assets can be traced to substantial payments collected from customers shortly before the close of the reporting period and to the selective stockpiling of inventory to ensure an appropriate ability to deliver. Net debt for the reporting period was slashed to CHF 5.3 million thanks to the free cash flow of CHF 19.7 million.

Stronger global footprint

Starrag Group is concentrating on the market segments and regions with the best growth and margin potential, which are led by China and the US. Consequently, Starrag Group continued to strengthen its sales and marketing structures in both countries during the past year. This course of action contributed to the pleasing increase in order intake in 2018 and the full benefit of this sales force expansion will only be seen in the coming years.

Enhancing profitability through Program «Starrag 2021»

In contrast to the pleasing order intake, the current margins are disappointing. This can be traced to the issues encountered with delays in order fulfillment and a lower profitability at some sites. Tangible countermeasures, for example the interim replacement of the management position for two sites, were introduced during the year under review.

Further corrective action is now being taken within the scope of the Program «Starrag 2021», which essentially aims at sweeping optimization of the value chain to improve our operational excellence at every stage of the value chain and in all organizational units in ways that are both clearly perceptible and sustainable. Greater attention will also be devoted to order quality right from the start and to increasing the transparency, monitoring and control of project performance. The considerations also entails a review of the product portfolio to leverage scaling potential more effectively as well as generally the strengthening of leadership. Maintaining the superior quality that customers around the world have come to appreciate is the overriding priority.

We are confident that with this broad plan of action we will reach our mid-term growth and margin targets, although a longer time horizon for this is needed than previously assumed. More specifically, we reiterate our mid-term goals of achieving average sales growth of 5% over the economic cycle with an operating margin of at least 8%.

Successful trade shows and customer events

As in past years, Starrag Group exhibited its products and services at the relevant trade shows in 2018. It was even able to profile itself at two trade shows in China: in April at the «China CNC Machine Tool Fair» (CCMT) and in November the inaugural «China International Import Expo» (CIIE). Both took place in Shanghai. Our trade show agenda was rounded out with the AMB Stuttgart, which has a leading role for the European market.

First launched three years ago, the annual «Technology Days» event we organize at company headquarters in Rorschach for our customers attracted well over a hundred interested professionals in 2018, marking the successful continuation of this popular event. At the «Aero Structures Technology Days» we presented our latest solutions for manufacturing structural components. Our «Turbine Technology Days» focused on process improvements that enhance the already high productivity and reliability of our turbine manufacturing systems.

Attestation of transparency

In the yearly ranking of annual reports conducted by HarbourClub and the Swiss business magazine «Bilanz», our 2017 annual report ranked 37th out of a total of 230 listed companies in the Value Reporting category, which is an excellent achievement for a company of our size.

Changes in the Board of Directors and Executive Board

Michael Hauser, CEO of Tornos SA, was newly elected to the Board of Directors at the 2018 Annual General Meeting. Meanwhile Frank Brinken, the Vice Chairman and former CEO of Starrag Group, announced he was stepping down from the board of his own volition.

On 1 June 2018, Christian Walti took over the position of CEO of Starrag Group from Walter Börsch, who had been responsible for the operational management of the Group since 2014.

At the end of September 2018, Norbert Hennes, Head of the Aerospace & Energy Business Unit and a member of the Executive Board, left the company at his own request. CEO Christian Walti has assumed management responsibility for the Aerospace & Energy Business Unit ad interim until a successor is named.

Outlook

For the current year Starrag Group expects business in its target markets to remain intact and is therefore optimistic in its assessment of the coming months. This outlook is based on the working assumption that global trade disputes or other geopolitical turmoil will not escalate.

Under that assumption, we anticipate a normalization of order intake in 2019. As order intake for the past year was also impacted by several large orders, resulting in the second-highest annual order intake in the company's history, we also expect the normalized order intake for 2019 to be lower (in local currency) than in 2018.

Sales (in local currency) should, conversely, exceed the figure for the previous year. As for earnings, the positive volume effect stemming from the growth in sales will presumably be accompanied by higher personnel and material expenses as well as restructuring charges.. The necessary and initiated measures to increase profitability are being implemented consistently. As a result, the EBIT margin and return on capital employed (ROCE) for 2019 are expected to be in line with the previous year.

Dividend

The Board of Directors will propose a dividend of CHF 1.00 per share at the Annual General Meeting on 26 April. This corresponds to a dividend yield of 2.3% based on the closing share price for 2018 and to a payout ratio of 40%, which is again near the middle of the targeted range of 35% to 50%.

Thank you

Once again, our employees deserve much thanks for their untiring efforts. We also thank our customers and suppliers and, not least, you as our esteemed shareholders for your trust in our company and its management team.

Daniel Frutig
Chairman of the Board of Directors

Dr. Christian Walti
CEO

At a glance

Significantly higher order intake – record order backlog – sales and EBIT margin down y-o-y

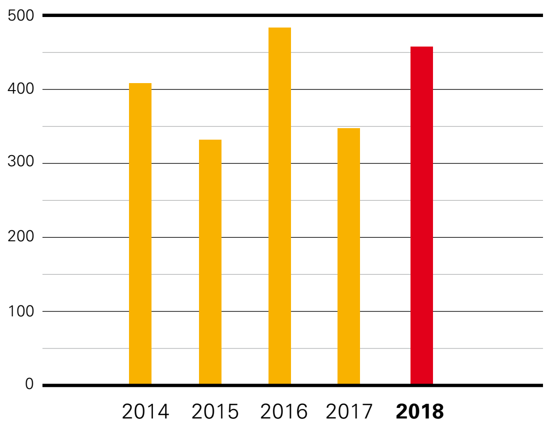
- Order intake +32% to CHF 461 million
- Record-high order backlog of CHF 366 million, ensuring stable capacity utilisation for over one year
- Sales down 4% to CHF 389 million (currency adjusted down 6%)
- EBIT declined to CHF 11.1 million – operating margin of 2.9% – return on capital ROCE 3.8%
- Net income CHF 8.4 million – earnings per share CHF 2.49
- Solid balance sheet with 48% equity ratio
- Dividend of CHF 1.00 per share – payout ratio 40%

CHF m	**2018**	2017	Change
Order intake	461.0	349.3	32.0%
Sales revenue	388.8	405.3	-4.1%
Operating result EBIT	11.1	15.3	-27.2%
Net income	8.4	12.1	-30.6%
EBIT as percentage of sales revenue	2.9%	3.8%	n/a
Return on capital employed ROCE	3.8%	5.7%	n/a
Return on equity ROE	4.7%	7.5%	n/a
Cash flow from operating activities	26.9	13.1	105.4%
Capital expenditure in non-current assets	7.1	11.7	-38.8%
Free cash flow	19.7	3.9	408.4%
Earnings per share (in CHF)	2.49	3.58	-30.4%
Profit distribution per share (in CHF) [1)]	1.00 [2)]	1.50	-33.3%
Employees (full-time equivalents, annual average)	1'516	1'503	0.9%

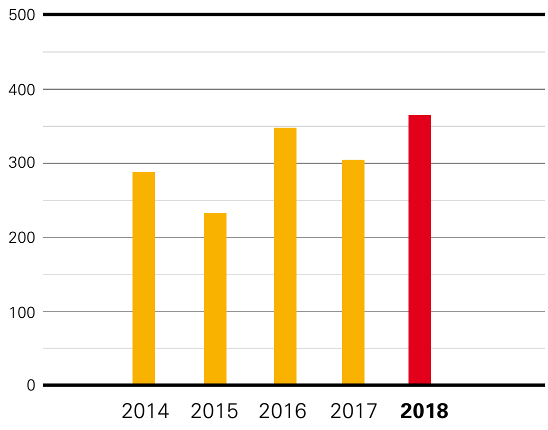
CHF m	**31.12.2018**	31.12.2017	Change
Order backlog	365.9	301.7	21.3%
Total assets	369.7	335.3	10.3%
Capital employed	205.0	221.9	-7.6%
Net debt	5.3	20.7	-74.2%
Shareholders' equity	176.6	177.3	-0.4%
Equity ratio	47.8%	52.9%	n/a

1) In the form of a distribution of capital contribution reserves free of withholding tax.
2) Proposal from the advisory board to the General Meeting.

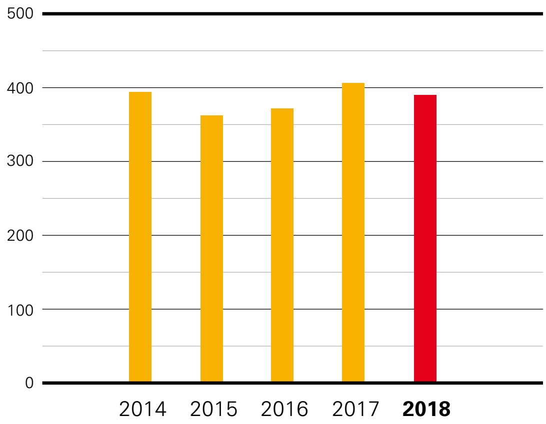
Order intake
CHF m



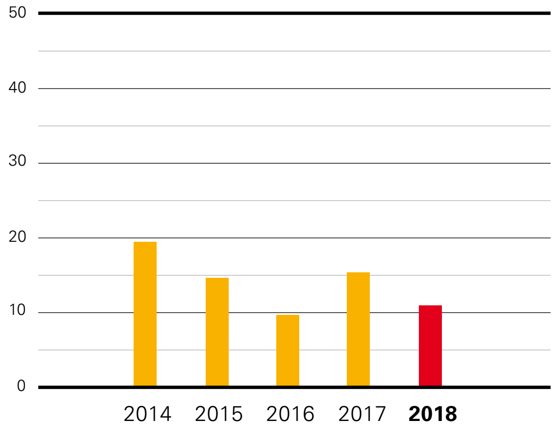
Order backlog
CHF m



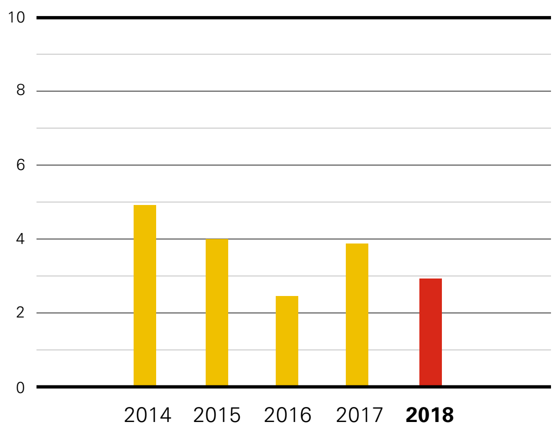
Sales revenue
CHF m



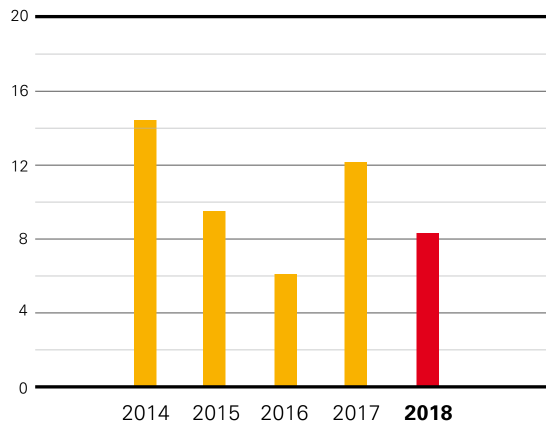
Operating result EBIT
CHF m



EBIT as percentage of sales revenue
%

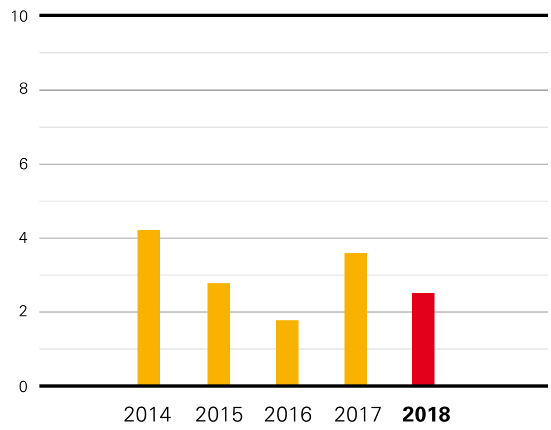


Net income
CHF m

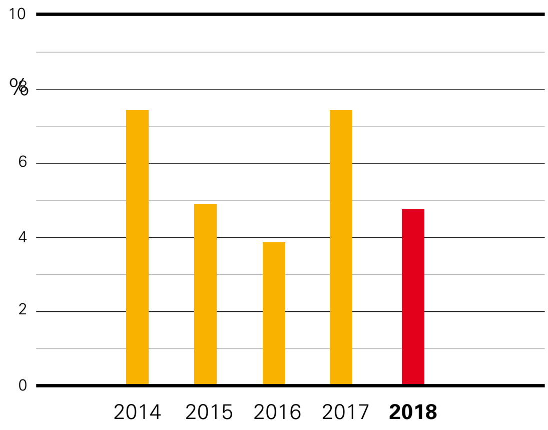


Since 2017, the financial statements of Starrag Group have been prepared in accordance with the Swiss GAAP FER accounting standards. The 2016 figures have been adjusted accordingly. The key figures for the years 2014 to 2015 are prepared in accordance with International Financial Reporting Standards (IFRS) and are only partially comparable to a limited extent.

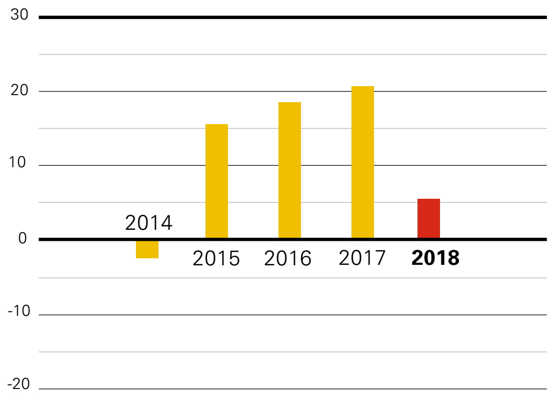
Earnings per share
CHF



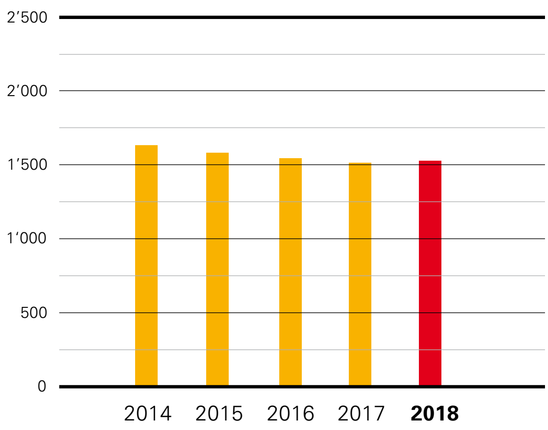
Return on equity
%



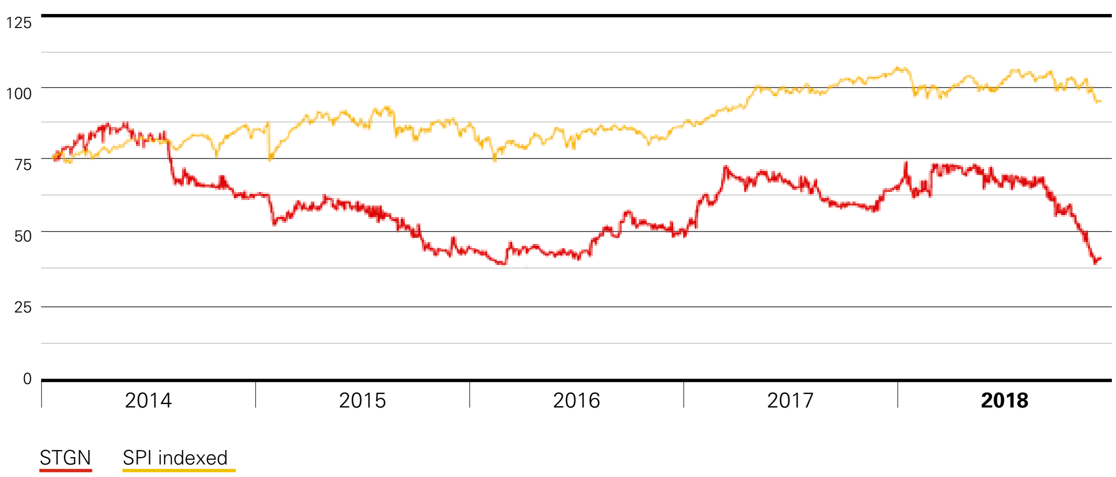
Net debt
CHF m



Employees
full-time equivalents, annual average



Share price
CHF



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Highlights

Introducing Christian Walti, CEO

The Starrag Group Board of Directors appointed Dr. Christian Walti as the new CEO of the Starrag Group on 1 June 2018. After studying business administration at the University of St. Gallen with a doctorate, Christian Walti took on various roles at a number of different companies. From 2012 to 2018 he was the Head of Bosch Packaging Systems in Beringen, Switzerland.

Daniel Frutig, Chairman of the Board of Directors, feels very fortunate to have Walti leading the company: «Christian Walti is the perfect person for the job. During his career he has built up a solid record of operational achievements, not just as a manager but also as a successful entrepreneur. He knows our industry and is well-versed in managing large-scale projects as well as sales and marketing activities. With Christian Walti at the helm, the Starrag Group will benefit from the experience of proven leader.»

The CEO himself added: «I am delighted to be working alongside this highly experienced team to lead the Starrag Group into the position that it deserves: a place among the world's leading manufacturers of precision machine tools.»

Exhibition focus in Shanghai, China

In 2018, much of the Starrag Group's trade fair activities centred on China, a key market for the company. In April, the Group presented its service portfolio at the China CNC Machine Tool Fair (CCMT) in Shanghai on a two-storey stand covering an area of 120 m².

With 126,000 trade visitors and 1,200 exhibitors, the CCMT is one of the most important machine tool fairs held in China, as evidenced by the 19.7% rise in visitor numbers compared to the previous event. The Starrag Group presented solutions for high-precision machining in the form of its Bumotec s181 model and a thermally stabilized machine column from Heckert.

The first China International Import Expo (CIIE) followed in November. After a celebratory opening ceremony presided over by General Secretary Xi Jinping, 3,600 exhibitors from all industrial sectors presented their solutions to a total of one million visitors.

These record visitor numbers were accompanied by sales deals totalling USD 57.8 billion. Starrag presented its Bumotec s191 and s181 machining centres as well as the Starrag LX051 and NB251 models on its 500 m² exhibition booth as part of a collaboration between Starrag and Shanghai Jiao Tong University. Representatives from the university presented a number of exhibits, including a virtual reality solution for the Starrag NB251 model.

Top: CIIE exhibition booth, Shanghai
Left: CCMT exhibition booth, Shanghai

Aero Structures Technology Days 2018
New manufacturing solutions for structural components

Turnover in the Aerospace industry has been increasing for several years now. In order to be able to meet the demand for aircraft components, manufacturers and suppliers are constantly required to put their production materials and strategies to the test and find new, even more efficient manufacturing solutions.

The Aero Structures Technology Days in January 2018 held by Starrag the machine tool experts for machining Aero Structures in collaboration with Kennametal offered a source of inspiration. 160 participants from 45 different companies and a total of 16 countries travelled to Rorschacherberg on Lake Constance. Customers came from Asia, America and Europe, from aircraft manufacturers such as Boeing, Airbus and Pilatus, as well as numerous small and large suppliers. Their motivation: To get an update about state-of-the-art production possibilities for structural components. Starrag also develops and installs customer-specific Flexible Manufacturing Systems (FMS) globally for housings, wing profiles and structural components. The second technology day provided a live example, in which Pilatus Aircraft Ltd gave participants a glimpse of its state-of-the-art aircraft construction process.

Pilatus develops and builds aircraft in Stans (a canton of Nidwalden), which are delivered all over the world: from the best-selling single-engine turboprop aircraft PC-12 right up to the PC-24 — the world's first business jet that is able to operate on short, unprepared runways. Because the new business jet, as with all other Pilatus aircraft, consists of numerous aluminium structural components from the nose to the tail fin and wingtips, those responsible made the decision to move in a new direction for cutting the large components.

Pilatus installed a Starrag FMS with two identically equipped Ecospeed F 2040 machining centres for components between 750 mm and 4,000 mm in length, thus significantly increasing production capacity in comparison to the previous solution.

Industry meeting at Starrag in Rorschacherberg: Customers came from Asia, America and Europe for updates on state-of-the-art production possibilities for structural components.

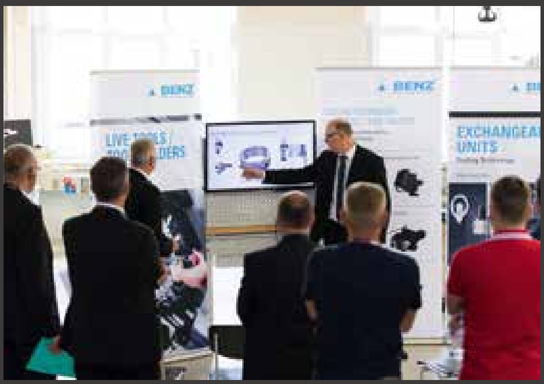
Turbine Technology Days 2018
Partnerships open up potential for productivity

The Turbine Technology Days have become the annual industry event for leaders in turbine production. This year, the event was jointly organised by Starrag and HAIMER. 160 participants from 16 countries travelled to Starrag headquarters in Rorschacherberg by Lake Constance to pick up tips on managing turbine production in an even more efficient and reliable manner.

Mauro Fioretti, President and CEO of the Italian Pietro Rosa TBM (Turbine Blade Manufacturing) Group was invited to be the keynote speaker. The family business has been operating for 130 years and specialises in the development and manufacture of turbine blades. Fioretti believes that: «Small and medium-sized businesses can only meet the requirements of the aircraft industry with strategic partnerships.»

Such a close collaborative partnership with customers and other suppliers within the process chain is also favoured by Dr. Christian Walti, CEO of Starrag since the beginning of June. He therefore attaches great importance to the Turbine Technology Days: «The event is an opportunity for the entire turbine industry to get together. The concept is recognised worldwide, meaning that key decision makers even take on the long journey from Asian and American countries to find out about the latest developments here.»

The Turbine Technology Days event is not a sales event, but a collection of ideas for process improvements — first and foremost, Starrag develops processes. Starrag's high-end machine tools form part of these processes along with numerous other components. Logically, partner companies are also involved in the event. The HAIMER Group co-hosted once again in 2018. Starrag has been working closely with HAIMER on process development for over ten years.



Two marketplaces involving expert partners whose products play a significant role in the process chain—from coolants (Blaser) to tool systems (Benz; Heule) and software solutions (CGTech VERICUT, TDM systems)—also helped to provide a well-rounded presentation agenda.

This is what maximum productivity with an optimum footprint looks like

Starrag presents a brand new, multi-talented solution in the form of the Heckert T45. Its key features include a highly compact, yet robust machine construction and a rotary swivelling unit with 500 mm round pallet specifically developed for turning operations; and to go with it, a rigid HSK-T100 spindle for high cutting performance. These advantages make the Heckert T45 the ideal solution for productive complete machining in a wide range of applications.

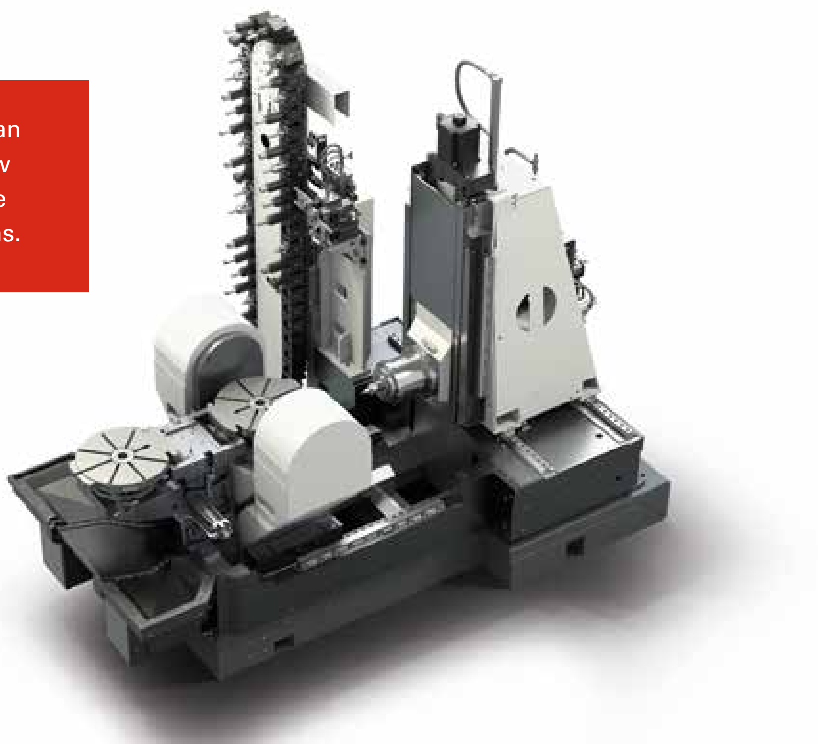
The day-to-day work spectrum of this machining centre lines seamlessly from milling and turning to complex procedures such as gear milling. The machining centre was developed for complete machining of a wide variety of demanding components in drive technology, hydraulics and general mechanical engineering.

The compact design of the temperature-stable and vibration-resistant mineral cast machine bed, with its central chip conveyor and integrated cooling unit, means that space requirements, including space for the coolant supply, are significantly lower than comparable machining centres on the market.

The additional peripheral devices have been intelligently integrated into the machine room to ensure first-class accessibility and servicing, despite the compact design.

It also offers a high level of productivity. As opposed to components which require processing on multiple machines before completion, in most cases only one clamping operation is required — even for toothed parts. The Heckert T45 therefore achieves a productivity benefit of up to 25% in comparison to conventional five-axis centres when toothing workpieces.

Thanks to its rotating table, which can move at a speed of 900 rpm, the new five-axis Heckert T45 turn-mill centre is also suitable for turning operations.



Machining toothed planetary carriers on the Heckert T45 by means of gear skiving is up to eight times faster than gear shaping.

A pioneering innovation: the Droop+Rein FOG line

The FOG line of the Droop+Rein product range celebrated its quarter centenary in 2018. At the suggestion of notable customers in the field of toolmaking, Droop+Rein developed a highly dynamic milling centre in 1993 in which the tool performs all movements and therefore the workpiece is no longer moved.

The beds are not installed at floor or corridor level as with more familiar gantry machines, but rather on columns. Doing this eliminates the moving columns and means that the tilting movement typical of floor-guided gantries is no longer an issue. When it was launched, this new development met all requirements for a highly dynamic, extremely precise HSC machine for the production of high-end surfaces in toolmaking.

Soon afterwards, the FOG line was also supplied to the aircraft sector, where machines with 40 kW spindles for highly dynamic and high-precision milling of the outer cylinders of aircraft landing gears were tried and tested. Droop+Rein has now captured a global market share of over 80% in this sector.

The line guarantees the highest surface quality and exceptionally efficient production. A number of benchmark tests indicate that 15-year-old FOGs perform better than the latest developments from competitors. A FOG produces high-precision surfaces of consistent quality and with a proven availability of 94% — and does so for years.

A special version of the machine is also used in high-precision production for aircraft construction in which, for example, complex drilling patterns on large workpieces must match to a few hundredths of a millimetre. Strict regulations governing interchangeability of parts apply to ensure that the drilling patterns of workpieces machined independently of one another at different locations also fit together.

This is one of many examples of how successfully the FOG line has already proven itself as a reliable means of production in a wide range of applications and in a variety of industrial sectors.

New for heavy-duty machining

In order to produce heavy workpieces with limited available space, Droop+Rein combined the FOGS and TF machine types – which are already established on the market – into a new machine concept. With the FOGS HD, Droop+Rein offers a machining centre suitable for heavy-duty machining with maximum quality and precision.

The system combines the benefits of portal and gantry machines. The Droop+Rein FOGS HD (Heavy Duty) is almost twice as powerful and strong as a standard FOG, and its outstanding machine dynamics mean that it can finish items such as bodywork tools around 20–30% faster and more economically than a comparable portal milling machine. The constant dynamic dimensions enable the operator to use the machine for unmanned finishing at night or at the weekend too.

Another innovation within this product range is the Droop+Rein FOGS NEO high-speed machining centre, which delivers a powerful machine concept for demanding machining tasks.

The range of services covers processes from machining standard geometries and pre-finishing contours to final finishing. For dynamic machining with the highest feed rates, the concept caters for the movement and acceleration of constant masses, regardless of workpiece size and weight. The FOGS NEO is dynamic and flexible: With its new, highly flexible and fast C-axis (±400°), this machining centre is ideal for the complete multi-functional machining of very large workpieces.

It goes without saying that an automatic pallet or tool changer, tool diameter and length measurement and automatic compensation of contour deviations are all integral parts of this innovation. Thanks to a variety of components and peripheral devices from its modular system, Droop+Rein can deliver an efficient and process-oriented overall system that is tailored to the customer.

The ultimate solution for flexible automation

The number of automated manufacturing plants has been rising continuously for years. More than half of the machines that Starrag has been involved with in the past years were incorporated into an automation solution, or planned as part of a complex plant.

When such concepts are implemented, the machining centres are primarily arranged into linear production lines or into production cells, and automation is provided via a robot. Both of these scenarios require a large contiguous area where automation elements and the machines can be combined. This requirement consumes investment resources and reduces logistical flexibility in the long term.

The Heckert Autonomous Vehicle (AV) from Starrag, a type of comprehensive automation system, actually creates this flexibility while at the same time helping to reduce investment costs. Controlled by a cell controller, the Heckert AV can take on a wide range of transport tasks within the autonomous production process. For example, the Heckert AV@tool version exchanges tools between machines or replaces worn tools automatically.

Meanwhile, Heckert AV@service ensures that chip buckets are replaced in good time. The manner in which the Heckert AV@logistic version interacts with the process is highly versatile: This version can transport Euro pallets from the warehouse or from production to an expert's workstation.

The fourth solution from the Heckert AV ensemble is the Heckert AV@pallet workpiece juggler. This version transports whole pallets, together with workpieces, from the central set-up point to free-standing pallet storage, or directly to the machine and back to the central set-up point. By developing a system that is compatible with almost every hall layout and fluctuations in utilisation, Starrag has not only freed its customers from the requirement of having to install its machining centre automation solutions in a linear and consistent arrangement, but has also provided a holistic solution for the intralogistics that will facilitate production processes in the future.

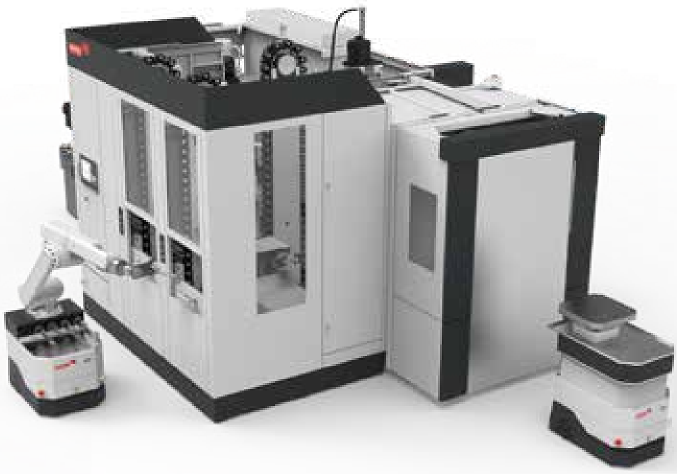


Image of a Heckert AV@tool solution

ServicePlus
Partnering for Efficiency

A service for «precisely what you value»

Modern maintenance and repair is about ensuring maximum technical availability of machines as well as sustainably reducing maintenance costs.

The new ServicePlus concept from the Starrag Group can be incorporated into the local maintenance concept as a key aspect for fulfilling this dual requirement. The new concept is a tailored, customer-specific solution to guarantee machine availability according to agreed availability targets — all at a fixed price.

The service therefore starts before a failure even occurs. A wide range of preventative measures ensure that machines fail rarely or not at all. The customer receives a five-year warranty as well as planned preventive and predictive maintenance work. Additional special agreements for services like spare part supply, remote diagnostics, telephone support and training of machine operators can be included to complete the package.

Customers in Great Britain, France and even in China are already benefitting from the concept. Starrag currently offers ServicePlus as an option with new systems or as an additional service for machines that have already been installed. Customers are finding that they are better off with the ServicePlus concept than having to deal with unplanned downtime and the associated costs.

The first Christian Belz Marketing Award

On 9 May 2018, the Starrag Group and the Institute for Marketing at the University of St. Gallen awarded the first «Christian Belz Award for Reality-Oriented Marketing» to Dr. Carsten Paulus. In his research, Dr. Paulus critically examined the optimisation of marketing communication in the industrial investment business and made ground-breaking findings relevant to both research and practice alike.

The Starrag Group donated CHF 10,000 for the prize, which will now be awarded every two years, in order to promote application-oriented marketing research. This topic was always a major concern for Professor Dr. Christian Belz, which is why the prize bears his name.

Christian Belz worked at the University of St. Gallen for more than 40 years, and in this time he has been especially dedicated to the subjects of sales and marketing in the industry. He gave his farewell lecture on 8 May 2018 at the University of St. Gallen. The award also emphasises the strong partnership between the Starrag Group and its neighbour, the University of St. Gallen.

First award ceremony for the Christian Belz Marketing Award (from left to right): Marcus Schögel (University of St. Gallen), Walter Börsch, Christian Belz (University of St. Gallen), Carsten Paulus (Gallus Ferd. Rüesch AG), Sven Reinecke (University of St. Gallen), Daniel Frutig (Starrag AG)

Image: Jean-Claude Jossen

Awards for Starrag's graduates

For the third year in a row, students based at the Starrag Group headquarters in Rorschacherberg have achieved excellent final results in their degrees and have been recognised for their performance as the best candidates in the canton of St. Gallen.

2018 Luca Mangoni
Grade point average of 5.6
Designer EFZ (Swiss Certificate of Competence), best in the canton

2017 Yannik Eberle
Grade point average of 5.8
Polymechanic EFZ (Swiss Certificate of Competence), best in the canton

2016 Roman Forter
Grade point average of 5.7
Polymechanic EFZ (Swiss Certificate of Competence), best in the canton

There has been a long tradition of professional training at Starrag. For many years, all sites have been involved in training young professionals for a variety of career paths. There are currently 28 students employed at the Starrag headquarters in Rorschacherberg alone. Industry mechanics and designers are trained up alongside automation engineers, computer scientists, logisticians and sales staff in preparation for their future professions. Through this programme, Starrag makes an important contribution to the development of highly skilled workers and strengthens Switzerland's reputation as a destination for high-tech solutions. The programme also gives the company opportunities to recruit qualified junior staff from within its own ranks.

Promoting individual potential for development
Consistently promoting individual strengths is crucial for delivering an outstanding performance. Where appropriate, Starrag offers the students the opportunity to acquire in-depth specialist knowledge and to put this knowledge into practice in addition to working on the competencies required by their degrees. For example, students can get involved in five-axis simultaneous machining of highly complex workpieces, as well as independently programming and running CNC programs.

Implementing this training concept requires a significant investment of time and resources but demonstrates the Executive Board's determination to be one of the most innovative training centres in the industry.

Company profile

Vision and strategy

Starrag Group, a leading manufacturer of highly productive and sustainable comprehensive solutions for precision milling machine tools, is the partner of choice for multinational customers in its target industries of Aerospace, Energy, Transportation and Industrial (Industrial Components, Luxury Goods and Med Tech). It offers an extensive range of high-end precision machine tools, enhanced and enlarged on a continual basis and backed by engineering expertise as well as maintenance and repair services that is proven to generate significant and lasting quality and productivity gains for the customer. Starrag Group is pursuing the following strategic objectives to make this vision a reality:

- Concentration on clearly defined market segments
- Consistent focus on customers and their individual needs
- Concentration on the top-quality segment through technological and service-oriented leadership
- Qualified and motivated employees
- High internal flexibility
- Solid financial basis
- Innovative management

Program «Starrag 2021»

The Group's inherent growth and earnings potential has not yet been fully exploited. This challenge has been recognized and is reflected in the Program «Starrag 2021» with a clear ambition to achieve the mid-term growth and earnings targets as quickly as possible and sustainably. With this strategy, we will focus even more than before on the most promising, i.e. the strongest growth and most profitable, market segments and regions in the future, paying particular attention to the aspect of services.

With a view to market focus and in particular also the priority markets USA and China, encouraging progress has already been made thanks to the expansion of the local sales structures. This is clearly reflected in order intake. At the same time measures have been taken to improve earnings. By optimizing the entire value chain, they aim to achieve a significant and sustainable improvement in operational excellence. In concrete terms, this means greater transparency and controllability of project management and a review of the profitability of the entire product portfolio. By optimization of the market and product strategy, the current business model will be strengthened within the scope of the existing range of activities by prioritizing defined market segments. At the same time, we are also sharpening the value added for our customers in these market segments.

This strategy includes enhanced customer service, the promotion of the digitization strategy (keyword «Industry 4.0») as well as organizational and structural adjustments. Each business unit bears full responsibility for its profitability. In sales, we will further simplify customer communication in line with the motto «one face to the customer». In order to make the division-specific expertise available throughout the Group, the Group creates cross-divisional competence centres and invests in operational processes and additional personnel in this area. The Starrag Group will thus further differentiate itself from its competitors in terms of application competence, technology and service performance.

Market positioning

The elements of the strategic thrust determine the Starrag Group's market positioning, which can be summarized in the following claim:

«Engineering precisely what you value».
On the one hand, this claim expresses one of the Starrag Group's most important core competencies: «Engineering» - The outstanding capabilities

of our employees enable us to manufacture machine tools for the upper quality segment, which are characterized by highest performance and above all precision and for which we also offer all associated services.

«Precisely» stands on the one hand for precisely this precision and on the other hand for our consistent customer orientation. Our customers receive individual solutions that provide them with added value, and for which they are also willing to pay: «What you value!»

No more, but also no less. We work consistently to focus our work on bringing profitability, growth and security to our customers and their needs, in the sense of a partnership that is reliable in every respect.

Brand strategy

The umbrella brand Starrag unites the product ranges Berthiez, Bumotec, Dörries, Droop+Rein, Ecospeed, Heckert, Scharmann, SIP, Starrag, TTL and WMW. The common brand stands for the four core values that apply throughout the Group and are lived by: competent, focused, dynamically and successful in partnership. It expresses a shared understanding of our targets, values and performance. With regard to the market, this means: Individual customer solutions based on common values.

Customer industries

As of 2015, Starrag Group's organisation and operations have been aligned more closely with its target customer groups, in keeping with its customer centricity claim. Products and services are concentrated on the four target industries of Aerospace, Energy, Transportation and Industrial. These target industries are sub-divided into eleven market segments, which in turn are focused on specific applications.

Aerospace

The industry of Aerospace includes the market segments Aero Engines, Aero Structures, and Avionics.

The Aero Engines market segment

When designing aircraft engines, the aim is always to achieve greater efficiency, reduce kerosene consumption and lower noise emissions. This requires ever-greater precision in the cutting of increasingly challenging raw materials for the production of turbine elements such as engine blades, blisks and casings. As a long-term partner to the engine industry, Starrag Group has the necessary expertise to achieve this.

In the area of engine reconditioning, the repair of blades and blisks plays an important role, since these are produced from very expensive raw materials and semi-finished products, making repair preferable to the production of new components. With the help of our software and engineering solutions, flow components such as these can be overhauled in a fully automated, reliable and cost-effective process.

The Aero Structures market segment

Rising kerosene prices and increasing environmental awareness call for lighter, quieter, more cost-efficient and more economical aircrafts with lower emissions and immissions. For all manufacturers and their suppliers, this means ever-more complex and larger, integrated structural components. These must be manufactured reliably within narrow tolerances and within short cycle times under constant process monitoring. This is where our machines for heavy-duty cutting, high-performance cutting and complete machining are very much in demand. Our machines are used to manufacture highly stressed structural components such as landing gear components, critical primary structural components in the area of the fuselage, steering gear and wings.

The Avionics market segment

Avionics is a collective term for the electrical and electronic systems used on aircraft and satellites. Flight control, management, communications and navigation systems are the main avionics systems in use today. Avionics systems are highly complex and extreme precision is required. Starrag's machine tool competencies in this market segment are in the areas of injection systems, combustion chambers, gyroscopes and flight control components.

Energy

The target market of Energy includes the market segments Oil & Gas, Power Turbines and Renewables.

The Oil & Gas market segment

In the field of oil and gas exploration, large ball stop valves for gas and oil pipelines, complex boring heads and other safety components are manufactured on our machines. We are in a position to cover the entire value chain – from extraction and conveying (upstream) through transport and storage (midstream) to further processing and refinement (downstream). The spectrum of products and customers is similarly broad – from classical end products such as pumps, valves, fittings and compressors to boring equipment for the extraction of raw materials. Such products are also used in petrochemical plants, in the field of transport and water treatment, and in many other industrial sectors.

The Power Turbines market segment

In the field of turbo machine engineering, Starrag Group has the most experience in the machining of high-precision flow components. The same applies to the production of complex housings for steam and gas turbines. The combination of multiple machining technologies in a single machine is also becoming increasingly important. The components to be manufactured must satisfy ever-stricter requirements; they are becoming more complex and are increasingly manufactured from materials that are difficult to machine.

Market segment Renewables

Thanks to a clear focus on applications such as gearbox housings, planet carriers, torque arms, large bearing or Pelton turbines, we are able to create measurable added value in the renewable energy sector, for example in the wind energy sector.

Transportation

The target market of Transportation includes the market segments Heavy Duty Vehicles & Engines and On-Road Vehicles.

The Heavy Duty Vehicles & Engines market segment

The Heavy Duty Vehicles & Engines market segment Starrag Group specialises in the machining of drive components such as transmission and engine components, axles and other prismatic chassis components. These are produced in a highly productive process, ideally in small- and medium sized series. To reduce manufacturing times and increase workpiece quality, complete machining with the minimum possible clamping is becoming increasingly important. We have responded to this trend with the use of quills and our newly developed continuous swivel heads. In this segment, we concentrate on agricultural vehicles, construction machinery, railway technology and large diesel engines for stationary applications.

The On-Road Vehicles market segment

This segment includes technical solutions for the production of high-precision vehicle components for cars, trucks, buses and motorcycles. The trend towards electric mobility has also opened up new application possibilities. The focus is on the series manufacturing of precision components such as cylinder blocks and heads, transmission housing, crankshafts and other drive train components. Customers attach particular importance to reducing unit costs. Thanks to automation solutions for handling workpieces between the different stages of machining, and the integration of test, cleaning and assembly systems and equipment, cost-effective holistic solutions can be achieved..

Industrial

The target market of Industrial includes the market segments Industrial Components, Luxury Goods and Med Tech.

The Industrial Components market segment

This segment includes components for machine tools, packaging machines, printing machines and plastics machines, as well as hydraulic and pneumatic aggregates. Here, too, there is a trend towards more complex workpieces. Optimised components call for new, innovative manufacturing concepts that simplify the production process with maximum precision and guaranteed quality, and which increase cost-effectiveness and are extremely flexible in operation. Starrag Group meets these requirements with machining centers that combine different machining technologies in a single machine.

The Luxury Goods market segment

In the Luxury Goods segment, the spectrum of base materials ranges from hard ceramics to precious metals and stainless steel. Frequent changes in the manufactured products and ever smaller lot sizes require maximum manufacturing flexibility. As many machining steps as possible must be performed in the same clamping position in order to achieve the necessary precision and surface quality for the expensive end products. Starrag Group offers machining solutions for many watch and jewellery components.

The Med Tech market segment

Cost pressure is high in the medical technology sector. Starrag Group helps to relieve this pressure by using fully automated, highly efficient machines to manufacture implants, medical instruments and dental components. Our machining solutions enable the simplification of machining steps and shortening of the production chain while also guaranteeing that demanding technical safety and regulatory standards are met.

Product ranges

As a result of organic growth and various mid and larger-sized acquisitions since the turn of the century, we have built a solid portfolio of business activities covering a comprehensive range of technologies and competencies. Throughout our various stages of expansion, we have always followed the logic that new developments must effectively complement the old and thereby reinforce the competitiveness of the Group as a whole. This has made Starrag Group what it is today – a combination of eleven precision machining product ranges under one roof, boasting a wide range of competencies that few rivals can match.

The product ranges operate under the name of Starrag, together with the figurative mark in red denoting high-precision machining capabilities. Both are registered and protected nationally and internationally. We will vigorously pursue our claims against any imitations, counterfeit products or patent infringements. The product ranges are used in all corporate and marketing communications, especially at leading fairs with a high international standing, at specialized trade fairs with a strong regional attraction and in our new customer magazine «Starrag Star», which was launched in 2015. The best trademark ambassadors can be found in our installed base at customer sites around the world, where our machine tools substantiate our claim of «engineering precisely what the customer values», every day. We assess perception of our appearance in the marketplace during our regular contacts with customers.

Berthiez

Maximum precision in vertical turning and cylindrical grinding: Outstanding solutions for the aircraft engine and roller bearing industry based on specialized vertical lathes and grinding machines.

Bumotec
Multifunctional machine tools: High-precision complete machining of small workpieces in sectors such as watches and jewellery, medical technology and micromechanics.

Dörries
Synonym for vertical lathes ranging from single column machines with a turning diameter of 1.6 metres or more to large gantry machines with a 12-metre turning diameter, 10-metre turning height and workpieces weighing up to 450 tonnes.

Droop+Rein
Maximum precision for large workpieces: Machine tools for machining large to ultra large workpieces (up to 250 t in weight) such as large format and bodywork machine tools, diesel engines, power plant components and large aircraft landing gear components.

Ecospeed
The most productive solution for high performance machining of aluminium structural components on the market: The patented parallel kinematic machining head Sprint Z3, the heart of the Ecospeed series, surpasses the performance of all conventional bent axis and fork milling heads and enables performance increases of up to 87%.

Heckert
The perfect balance between long-lasting precision and productivity: Scaled range of high-precision and highly productive horizontal machining centers for milling, turning and boring medium and high quantities of workpieces.

Scharmann
Complete machining solutions with the shortest possible cycle times: Specialist solutions for heavy-duty cutting and the complete machining of extremely large workpieces based on high performance, automatically interchangeable head attachments.

SIP
Uncompromising commitment to precision: Jig boring machines and machining centers to meet the most stringent demands for accuracy of research institutes, aerospace companies, the aircraft industry and leading precision engineering firms.

Starrag
Maximum precision flow components: Five-axis, robust and high tensile-strength machines with high metal removal rates for maximum precision manufacturing of turbines, compressor blades, impellers, blisks and complex structural components.

TTL
The home of adaptive machining: Internationally renowned, software-supported manufacturing solutions for the machining and repair of components for gas turbines and aircraft engines.

WMW
Machining centers for emerging markets: Horizontal machining centers for rapidly developing emerging nations.

Flexible production at eight locations

Starrag Group manufactures its machines and production systems at eight production plants in Switzerland, Germany, France, Great Britain and India. All production facilities are part of our production network, which enables us to balance capacity and risk. Our development and technology centers are also situated in these locations. We use our exemplary technological expertise across all segments throughout the Group.

Keys to success

Sustainable commercial success, as the Starrag Group has distinguished it for many years, is based on a number of strategic success factors that we continue to nurture consistently: individual customer focus, global presence, continuous innovation, consistent efficiency enhancement and profitable, long-term oriented management.

Individual customer focus

The Starrag Group operates to a large extent discrete manufacturing according to the individual and therefore very different needs of its customers. In addition to stand-alone machines, there is a growing focus on system solutions in which individual Starrag machines are integrated into customer-specific, flexible production systems. As a result, almost all the machines delivered are distinct items.

Global presence

Starrag Group is represented in the most important industrial centers (Europe, Asia and North America). Our international customers value short and direct communication channels. Experienced local sales, application and customer service specialists are therefore familiar with local cultures and customs, and are in a position to respond rapidly. They ensure a close and lasting customer relationship based on trust. The global service team receives constant training and development and is being expanded. The global logistics system with its optimized transport routes and decentralized spare parts warehouses ensures fast and efficient parts supply. The intensive customer contact up to the delivery and commissioning of the machines, but also the operating phase enables a continuous and comprehensive survey of customer satisfaction. This is all the more so as the Starrag Group tends to serve specialized larger customers. Customer care is supported by a global CRM system.

Continuous innovation

Measured as a percentage of sales, our investments in the development of new products, components and processes is usually higher than average for our industry as we aim to maintain and extend our technology leadership. We view market oriented innovation as the central driving force of our business. We operate research and development centers in Switzerland, Germany, France, Great Britain and India, and protect our technological developments with a broad patent portfolio. Development work carried out by the Group is supported by close cooperation with our customers as well as leading technical universities and research institutes. Professors Reimund Neugebauer (President of the Fraunhofer Society) and Christian Brecher (RWTH Aachen University), two university luminaries in machine tool engineering, are members of the Supervisory Board of one of our German subsidiaries.

Systematic increase in efficiency

As the overarching link, the Group ensures Starrag's high quality expectations and opens up synergies along the added value chain – from product development and purchasing to sales and service. This includes, for example, the development of joint modules that can be used and processed in various companies throughout the Group. Internally, this requires continuous improvement in procedures and processes to increase productivity. This is the task of our Business Process Management, which simplifies and standardizes processes wherever it makes sense. Defined key processes are regularly checked and improved. The best possible distribution of risk in terms of markets and regions as well as a solid financing structure should ensure growth and innovation over the long term.

Attractive for shareholders

Five key components make shares in the Starrag Group attractive for long-term, value-oriented investors.

Positioned in sustainable megatrends

We serve markets that are characterized by sustainable growth potential due to global trends and challenges: increased mobility (aviation and land transport with their demands on safety and fuel efficiency), investment needs in the global infrastructure (trucks and construction machinery), nutrition for a globally growing population (efficiency in agriculture), increasing need for energy with improved energy efficiency. In addition, increasing demands on the production efficiency require higher precision in production, both with larger workpieces such as structural parts for aircraft or ship propellers as well as with increasingly small and complex workpieces such as precision mechanics, watches or medical technology. This is exactly in line with the core competences of the Starrag Group. Experts estimate that we have access to a market potential of around CHF 4.5 billion worldwide in our four customer industries, which is more than ten times the current sales revenue. This means that substantial growth opportunities still open up for Starrag in these long-term growing markets.

Innovation leadership as a key differentiating element to the competition

The Starrag Group focuses its innovation activities systematically on customers and their individual needs, with a focus on the high-quality segment and the Group's own expectation of technological and service-oriented leadership. Every year, we invest a disproportionate share of, on average, around seven percent of our sales in research and development and, in addition, maintain close contact with the science sector. Our customers and other market experts confirm this technology leadership of the globally recognized brand Starrag – but also of our individual product areas. We are also well on the way to «Industry 4.0», for example, by networking with our customers' production systems. We systematically modularize our machines in order to expand the application possibilities of existing machine series to other market segments served by the Starrag Group while reducing complexity. Thanks to the core competence of the Starrag Group in optimizing the overall system of machine – software – application – system integration – customer service, we not only create added value for our shareholders, but also for our customers.

Focused strategy – «Reduced to the max, but this from A to Z»

Starrag Group focuses on the most promising, growing and profitable market segments and regions as part of a clear brand strategy – committed to providing our customers with our solutions for profitability, growth and security, in the spirit of a partnership that is reliable in every respect. We support our customers through a professional customer service organization, which makes a significant contribution to the profitability and stability of the Starrag Group with its innovative service products. Operational excellence with clear processes and reduced complexity is a key element for us. In this way, we can differentiate ourselves from our competitors and provide our customers with tailor-made added value.

Forward-looking management with undisputed track record – Major shareholder ensures continuity

The entrepreneurial members of our management team and Board of Directors have many years of professional and managerial experience in the industry, including the machine tool industry, and are therefore very familiar with their specific challenges and cycles. This is not only an important basis for careful planning, but also for the corresponding reliable external communication, for example with our investors. The focus on four customer industries means the Starrag leadership team already occupies a top ten position in all four industries today: In aerospace and energy we are even among the top 3 suppliers worldwide. With Walter Fust, the Starrag Group has a majority shareholder with a long-term orientation, who as an engineer is very familiar with the industry and its challenges and has successfully created a group of companies that specializes, among other things, in customer service. The corporate governance of the Starrag Group is committed to the highest standards, which has also been honoured in various external ratings.

Solid financial basis and management with long-term orientation using modern, value-based instruments

Primarily, the financial management of the Starrag Group is consistently focused on growth and increasing profitability. These are measured by the key performance indicators growth in sales revenue and order intake, operating profitability (EBIT margin) and return on capital (Return on capital employed ROCE and Return on equity ROE). The Starrag Group's history of reliably distributing a dividend year after year with a planned payout ratio of 33% to 50% of net profit results in an attractive dividend yield (applied payout ratio for fiscal year 2018: 40% or dividend yield of 2.3% on the year-end 2018). For many years, the Starrag Group has been able to report sustainable positive results. Even during the 2008/09 financial crisis, the Group was able to continue to distribute dividends uninterruptedly. The Starrag Group's extremely sound financing and capital structure - with an equity ratio of traditionally over 50% - is not only the basis for reliable dividend payments. It is also a valuable foundation for the long-term capital goods business and the successful conclusion of suitable, complementary acquisitions.

Outlook: Creating long-term value

The Starrag Group aims to achieve profitable growth in the interest of its sustainable, value enhancing positioning, based on a strong financial base and a stable shareholder structure with a renowned anchor shareholder. We expect our activities to generate an EBIT margin of at least 8% on average over economic cycles and to earn the cost of capital. We intend to achieve this financial requirement in the future by means of a clear strategic positioning, the further improvement of operational excellence, the use of economies of scale, the operating leverage with rising sales revenue and by a consistent cost management.

At present, the Starrag Group cannot be satisfied with its earnings performance. Measures have therefore been taken to optimise the entire value chain. This involves increasing the transparency and controllability of project management, reviewing the profitability of the entire product portfolio and systematically continuing employee development. The aim is to achieve a significant and sustainable improvement in operational excellence at all levels and in all areas. The basic strategy will be further sharpened by the Board of Directors and the Executive Board.

Although recent growth has been driven primarily by acquisitions, organic growth will take precedence over the coming years with consistent use of the Group’s synergy potential. In the medium term, we aim for an annual increase in sales of 5%. We expect this growth as a result of the worldwide scalability of our expertise in areas of activity and markets in which we have not yet achieved the desired leading market position. In addition, we are focusing on further strengthening and expansion of our service business.

The focus on organic growth does not rule out further complementary acquisitions in individual cases. The basic prerequisites for this continue to be the strategic «fit», an attractive and complementary market and product portfolio, cultural compatibility and, last but not least, an attractive valuation.

We remain committed to our sustained ambition to play a leading role in all four of our customer industries.

Milestones in the company's history

1890 1910 1920 1950 1960 1970 1980 1990

1897

The company is founded in Rorschacherberg, Switzerland under the name «Henri Levy Mechanische Werkstatt» and manufactures threading machines for the textile industry.

1921

The company is renamed Starrfräsmaschinen AG. Manufacturing of copy milling machines for automotive, aircraft and mould-manufacturing companies begins in the mid-1930s.

1952

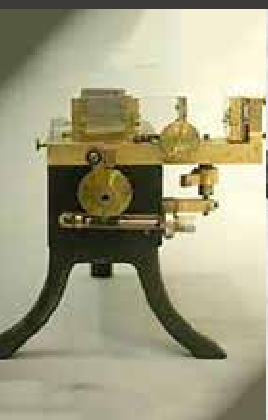
Post-war period: The company establishes itself as a manufacturer of turbine milling machines.

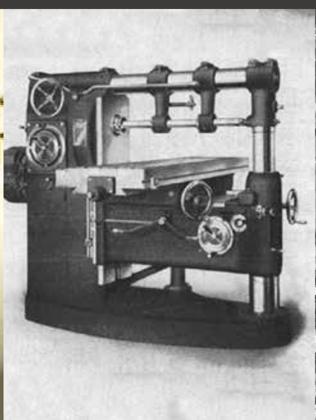
1973

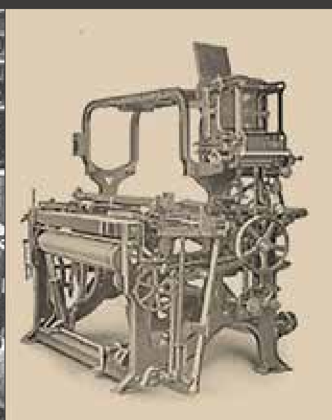
The world's first five-axis milling machine is introduced by the company.

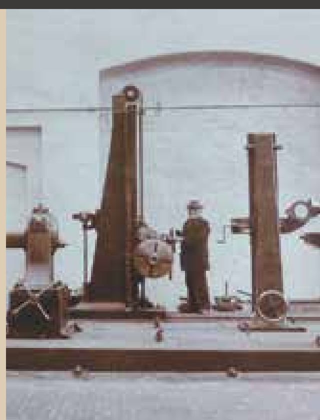
1998

Stock-market listing and acquisition of Heckert in Chemnitz, Germany.









2000 2011 2012 2013 2014 2015 2016 2017 2018

2002

Acquisition of TTL in the UK and SIP in Geneva, a company whose roots go back to 1862.

2012

Acquisition of Bumotec, Freiburg, Switzerland.

2015

Sales operations are reorganized with a focus on ten market segments within the four target industries of Aerospace, Energy, Transportation and Industrial.

2011

Acquisition of Dörries Scharmann Group, comprising Berthiez (Saint-Etienne, France), Dörries (Mönchengladbach, Germany), Droop+Rein (Bielefeld, Germany) and Scharmann (Mönchengladbach, Germany). Brand concept is updated and the company name is changed to Starrag Group.





The expertise to help customers succeed

1870 1880 1890 1900 1910 1920 1930 1940

Platinum-iridium copy of the original metre prototype known as the «Mètre des Archives»

Let us take you back to the year 1862, when Professors Auguste de la Rive and Marc Thury founded the «Société pour la construction d'instruments de physique» (SIP) in Geneva. This organisation manufactured instruments and apparatus that were capable even then of measuring to an accuracy of 10 thousandths of a millimetre (by way of comparison, note that a hair is around 50 thousandths of a millimetre thick). This and other specialist expertise earned SIP its reputation in the measuring technology sector and in recognition of its work was among the few companies to receive one of 12 coveted platinum-iridium copies of the original metre prototype in Paris in 1889.

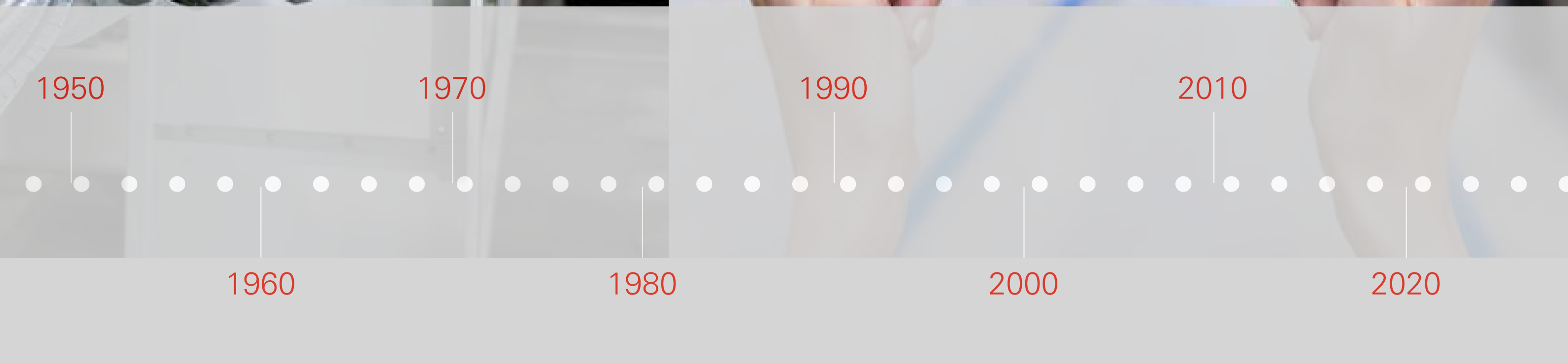
Looking back on the history of the Geneva-based company, which has been part of the Starrag Group since 2006, leads to another factor that has contributed to the success of the Group as a whole: The SIP factory was the first in Geneva to build and repair scientific instruments.

Building on its original field of expertise, SIP later moved into the construction of jig boring machines. In taking their company in this direction, the two founders emulated famous entrepreneur John Davison Rockefeller, who believed in a similar recipe for success: «If you want to succeed, you should strike out on new paths, rather than travel the worn paths of accepted success.»

All current members of the Starrag Group share this desire to break new ground. For example, Dörries and Scharmann, founded in 1884 and 1885 respectively, collaborated with former DaimlerChrysler subsidiary «DaimlerChrysler Aerospace AG» (DASA) more than a century later to develop a parallel kinematic machining head. This solution was a portable system with three legs (a tripod) capable of sending the machining head into all corners of a machining centre via extremely flexible, fast and precise movements.

New drive concept for aluminium machining

Building on the tripod technology that was already available, the Starrag Group introduced a High Performance Cutting (HPC) machining centre, which was already milling the integral aluminium components in Eurofighter planes at least twice as fast as the best machines on the market by the year 2000. The concept was well received, and with over 130 machines now on the market the Ecospeed machining centre



with parallel kinematic head has become one of the most successful and globally established resources used in the aerospace industry. These machining centres still function as the benchmark for HPC machining of large aluminium components — reason enough to justify the decision by the Swiss group of companies to offer Ecospeed as a independent product range.

Other Starrag product ranges have also developed with similar levels of success: 1897 was the year that Henri Levy Mechanische Werkstatt was founded in the Swiss municipality of Rorschacherberg, an organisation that manufactured threading machines for the textiles industry. This company was the blueprint for the current Starrag product range and headquarters of the Starrag Group. One year later, the Wanderer factories were established in Chemnitz, initially manufacturing milling machines before also moving into small vehicle production.

Both companies represent good examples of how constant change can be highly successful. Working in line with this principle, the former textile machine manufacturer in Rorschacherberg built the world's first five-axis milling machine in 1959, and former GDR state-owned enterprise Heckert (formerly Wanderer) commissioned the world's first Flexible Manufacturing System (FMS) in 1975.

Integrated Production System (IPS): Modular «Industrie 4.0» solution

These innovations and the associated companies have developed into a corporate group that sells 11 product ranges to customers in the aerospace, energy, transportation and industrial sectors. The Group's claim of «Engineering precisely what you value» has summed up its activities since 2015. The customer is always provided with precisely what they need and what is important to them: nothing more and nothing less.

This message also describes Starrag's commitment to the current focus on digital transformation, which is relevant to all sectors in the form of the «Industrie 4.0» concept. With its own «Integrated Production System» (IPS) and the company's in-house cell controller technology, Starrag is taking the right steps forwards. Users and operators can use this technology to control and monitor their Starrag manufacturing systems and production lines to ensure reliable processes. The technology supports Starrag customers with the complex task of using data in a networked production world to obtain added value.

An order with many **extras**

In one clamping operation:
Production Technician Fritz Suttner and Machine Operator Matthias Bauer are both pleased, in particular with the complete processing that is now possible for many typical pump components.

Suitable for complex pump production

High expectations from regular customers are part of everyday life for the Starrag Group. This order was no different: The KSB factory in Pegnitz ordered a high-performance vertical turning lathe, which allows fast, precise and efficient machining of pump housings weighing up to 3 tonnes in one clamping operation, even when the materials are difficult to work.

«Our business is characterised by very short delivery times», explains Fritz Suttner, a member of the Production Technology department at KSB AG in Pegnitz (near Nuremberg). «We place value on tight production structures, through which we can carry out processing very quickly and with very low dwell times.» This concerns the production of large pump housings of up to 3 tonnes in weight for the power and chemical industries.

These housings are custom-made in batch sizes 1 to 2 from materials including corrosion-proof and acid-proof stainless steel as well as heat-resistant special ferrous alloys.

Pegnitz plays a special role within the KSB Group because the plant has its own foundry for producing special alloys. This makes it possible to produce tailor-made materials, used for example when deploying pumps for smoke desulphurisation, which are resistant to corrosion, aggressive media and abrasion.

Success: **Production Technician Fritz Suttner and Machine Operator Matthias Bauer are impressed with the extremely precise machining of difficult-to-work pump materials.**

Now everything takes place in one process on a compact Dörries CONTUMAT VCE 2800/220 MC single column vertical turning lathe (swing diameter: 2,800 mm). The vertical turning lathe performs turning, drilling and milling in a single clamping operation.

Fritz Suttner from Production Technology at KSB AG in Pegnitz: «We got exactly what we needed and what is important to us — for example a significant increase in productivity.»

This isn't the only reason why the production expert calls the Dörries CONTUMAT a multi-functional machine concept that can machine even large, hard-to-work components with low vibration through its rigid cast construction and hydrostatic guides. The low vibration feature has proven it worth in particular for reliable manufacturing of very precise workpieces, made to the exacting IT6 tolerance standards.

Motivation: **Machine operator Matthias Bauer enjoys working on the new Dörries vertical turning lathe from Starrag because it makes his work easier.**

Suttner and his team are especially satisfied with the complete processing of many typical pump components (housings) as even the machining process of these workpieces can be monitored by the machine operator thanks to investment in an integrated image processing system.

The alignment enables another special feature: The machine can be run in operating mode 5, which allows the workpiece to be aligned with the door open when the table is turning at a low speed, guaranteeing that the work can be completed safely.

There are many equipment details that KSB values in a vertical turning lathe. But, all in all, does the machine reflect the Starrag claim «Engineering precisely what you value»? Has the customer, KSB, received exactly what they need and what is important to them? «Yes, as in our investment planning we defined a marked increase in productivity», says the Production Technician. «It has become clear that this requirement has been met."

The machine has also met another demand from the specification: It has a far smaller footprint as it replaces two to three conventional machines. Suttner also praises the skills of the commissioning team in particular: «Starrag impresses with its accurate approach.»

A meaningful extra: KSB considers complete enclosures important on all new machines, such as the Dörries vertical turning lathe, in order to protect workers from aerosols and to prevent contamination of the factory.

When the machines start to get really **big**

Impressive:
The tower magazine in the Heckert HEC 1000 operated by Eisenbeiss GmbH provides space for over 300 tools with a length of 800 mm.

Lots of tools in the smallest possible space

As a manufacturer of customer-specific industrial gearboxes, Eisenbeiss GmbH is increasingly focusing on bringing a large share of production in house. With a Heckert HEC 1000 machining centre tailored precisely to the needs of its application, the company, located in Upper Austria, is now set up perfectly for machining large transmission housings.

Further expanding its vertical integration
The manufacture of extruder gearboxes is an important business area for the Upper Austrian company. A high level of vertical integration allows the greatest possible flexibility and the means to achieve short lead times despite a wide variety of individual customer requirements. In 2015, Eisenbeiss decided to invest in a large machining centre in order to increase both capacity and productivity.

An existing machine, which was over 20 years old, made way for the new machining centre. «We have limited space available on our site. We had earmarked a certain area of the building for the machine to further optimise the production process. Finding a concept that would fit was a particular challenge.»

«For us, though, the essential criterion was whether the new machine would allow us to process a particular gearbox housing, known internally as «Part 7».

We were thoroughly impressed by the high level of flexibility shown by Starrag during the design and implementation of the machine. Then, of course, we were also very satisfied with the commissioning and start-up phase running so smoothly.»
Johann Panzenböck, Group Leader for Cubic Manufacturing at Eisenbeiss GmbH

«We passed this framework to the respective machine manufacturers and asked them to present a suitable space concept», continues Panzenböck.

The described benchmark part is a gearbox housing produced as a cast blank part. Part of the requirement was that it must be possible to fully rotate this part on the machine. «In assessing the requirements, we realised very quickly that we would be unable to achieve this with any of our standard machine versions. That is why we selected the Heckert machine as the basis for our concept as it meets the needs of our customers through its modular design.»

«The Heckert HEC 1000 could not have offered the required size of interference circle if used as the basis. A workaround for this was to open the loading door when rotating the component. In programming terms, this meant a safety step had to be inserted to prevent rotation while the door was closed. The machine operator must actively confirm when starting the machining that the part is not oversized in order to keep the door closed. The upstream set-up point also has an access lock so that part movement is stopped immediately upon entry to the safety area», explains Arno Berger, Sales Engineer at Starrag, in detail.

High productivity: The time it takes to machine «Part 7» on the new Heckert machine has been reduced by around 20%.

Precisely matched configuration

The fact that the machine was tailored precisely to its requirements meant that Eisenbeiss selected the Starrag concept. «The high degree of flexibility Starrag showed when designing the machine was what impressed us in the end. We had a specified time for the benchmark part of between 27 and 30 hours. Up to 100 different tools are used to achieve this in nearly 300 work steps.

On the new machine, we generally manage «Part 7» in under 23 hours. We are now able to manufacture 17 parts on the new machine, many of which we would previously have had to outsource. In the future, we will probably process around 100 different parts on the machine», says the Department Head, justifying the decision.

Saving space was a key factor: The limited available space meant that a Heckert HEC 1000 was used for the X-axis configuration. The other axes have been formed using components from the Heckert HEC 1250.

The gateway to more **growth**

The finishing touch:
The new component is the centre-piece that connects the oxygen bottle to the respirator mask. The initial material is a forging blank made from a special aluminium alloy that contains silicon (AlSi05).

The champions league of machining

A turned parts contractor from Berlin is boldly setting out on a new path: With the purchase of a Bumotec s181 machining centre from the Starrag Group, Heinrich GmbH entered into the field of high-precision complete machining of components for respiratory equipment.

«Welcome to the Swiss corner», says Christian Pooch, Managing Partner of Heinrich GmbH in Berlin, as he leads his visitors to his latest investment: a Bumotec s181 five-axis CNC turn-mill centre with a total of nine CNC axes, which now stands next to five automatic lathes that are also from the Swiss manufacturer.

The large machine park allows for order diversity

More machines than people work at Heinrich because the sheer variety of different orders — from batch size one to large series with several million parts — requires a very large machine park with more than 30 systems. According to Pooch: «Whenever the process and the product allow it, we also let some of the machines run overnight in a ghost shift without an operator present.» Heinrich GmbH plans to use the new machines, the company's largest investment to date, to break new ground. After a competitor had already decided not to bid, a regular customer asked the Berliners if they would be willing to produce a distributor for a piece of respiratory equipment. «It is a component that has extremely high demands with regard to tolerances and the absence of burrs», Pooch explains. «After all, it's not acceptable for a fireman to inhale small pieces of burrs during use.»

Although much lower-priced machine tools are available, precision was not the only reason why Pooch chose the Bumotec s181, a multi-axis simultaneous turn-mill centre with a CNC FANUC 31i panel and retaking unit, for the complete machining of complex and high-precision workpieces.

Pooch has two sons who work alongside him, one of whom is especially enthusiastic about the new possibilities: «Our former core business of lathing nuts and screws has not been enough to sustain us for a long time», says Production Engineer and General Manager Tobias Pooch. «But with the Bumotec, we can position ourselves even better than before when it comes to high-precision components, and also establish our business at an international level.»

The company has enjoyed a positive response from its customer base because the Bumotec has allowed Heinrich to open the gateway to completely new worlds, meaning growth. Pooch and his sons have put particular emphasis on a high degree of automation so that they can use the Bumotec s181 around the clock if necessary. For this purpose, it has been equipped with an automatic tool and workpiece change system: Together with a Starrag expert, the Berliners started processing the new component in the late autumn of 2017. «It's unbelievable but true,» says Tobias Pooch happily.

Tobias Pooch: «With the Bumotec, we can position ourselves even better than before when it comes to high-precision components, and also establish our business at an international level.»

The finishing Process: Heinrich even allows itself the manufacturing luxury of completely deburring the component not only on the inside but also on the outside, and then anodising it.

«We have been producing since the commissioning process and we have not had to make any corrections since then.» His father adds: «We also deliberately purchased the machine with set-up included, because we are entering new territory here.»

Absolute roundness and high level of surface quality

The new component is the centrepiece that connects the oxygen bottle to the respirator mask. The biggest challenge lies in ensuring that there are no burrs in the many interconnecting channels. Heinrich even allows itself the manufacturing luxury of completely deburring the component not only on the inside but also on the outside, and then anodising it.

«Because this was something new to us, it was important for us to receive German-language support from an industry expert», Christian Pooch adds. The Starrag TechCenter for Medical Technology and Precision Mechanics provide this support.

All in all, the new Swiss addition lives up to the Starrag claim of «Engineering precisely what you value» in many different ways. Heinrich put a special emphasis on profitability, safety and growth. The Berliners have already achieved one of their goals: Since its first hour of operation, the Bumotec s181 has run reliably and without any tolerance deviations.

«With this process reliability we can capture a new customer base», says the senior partner. «It has already become clear – just a few months after commissioning the new machine – that the goals of profitability and growth will soon be achieved too.»

And potential customers are not the only ones who have reacted positively to the investment. «The valuation department of our financing company essentially told us that the Bumotec puts us in the champions league», the Managing Partner says happily. «The machine performs extremely well in terms of resale value and longevity.»

Highly effective: The internal coolant supply through the tool plus external cooling save seconds when working with aluminium at Heinrich, thus ensuring greater productivity.

Management Report

Pleasing volume growth – inadequate margins

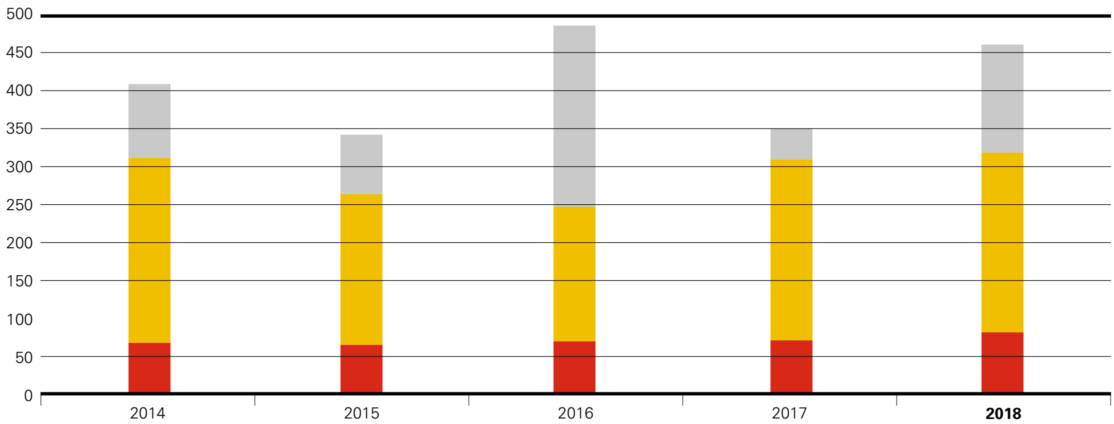
Our operating results for fiscal 2018 are in line with the guidance we provided during the second half of the year. As predicted, our annual order intake for 2018 – the second-highest in the history of our company – was well above the prior-year intake and reflected the continued high demand for our quality-driven products. Besides numerous small and mid-sized orders, Starrag Group acquired several large orders from Chinese, US and European customers. The majority of these big orders were received during the second half.

Meanwhile our sales and operating results were below the levels reported in the previous year. This can be traced primarily to issues in order processing at some production sites and to restructuring charges. Various measures were taken during the course of the year to improve our operational excellence throughout the value chain and across the entire organization in ways that are both clearly perceptible and sustainable. Greater attention will also be devoted to order quality right from the start and to increasing the transparency, monitoring and control of project performance. Management is also reviewing the product portfolio to leverage scaling potential more effectively and generally strengthening leadership. There is no intention, however, to compromise on our acknowledged quality leadership as a pivotal factor for success.

Starrag Group is confident that the action plans embedded within the «Starrag 2012» program will enable it to overcome its current low profitability. Management therefore reiterates its mid-term sales and profitability targets: average sales growth of 5% over the economic cycle with an operating margin of at least 8%. However, it concedes that achieving these targets will take longer than originally forecast.

Order intake by order size

CHF m



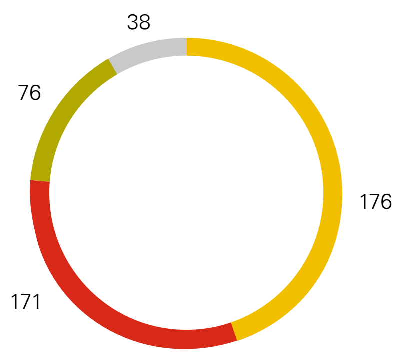
CHF m	2014	2015	2016	2017	**2018**
Large orders (> CHF 5 million)	98	79	239	41	143
Small/medium orders	244	199	178	239	237
Recurring service	66	63	68	69	80

Clearly higher order intake from most targeted industries

Looking at order intake from the various targeted industries, Aerospace showed the greatest year-on-year increase thanks not least to several large orders. Furthermore, order intake for the previous fiscal year was lower than usual after some customers postponed their orders. The Transportation segment also received several large orders and benefited from other factors as well. In the Industrial segment, orders received from luxury goods manufacturers were very high and confirmed the positive trend that began in 2017. Energy was the only segment that did not report any order growth; its intake remained at the prior year's depressed level. As in the previous year, the two largest targeted segments – Aerospace and Industrial – together accounted for about three-quarters of total orders received.

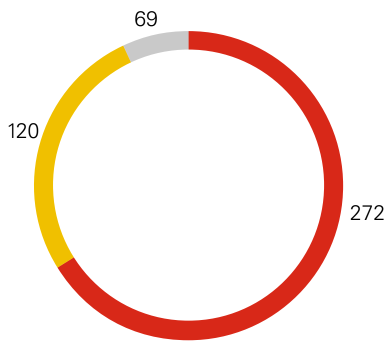
Highlights for 2018 included orders for the new horizontal machining systems introduced in 2017, primarily from customers in the Transportation and Industrial segments. These new systems require 30% less floorspace but offer increased productivity. Despite the challenging competitive environment, Starrag Group received pleasing orders during the second half, for instance an order in the double-digit million range from a major Chinese engine manufacturer.

Order intake by market segment



CHF m	**2018**		2017
Industrial	176	38%	157
Aerospace	171	37%	110
Transportation	76	17%	44
Energy	38	8%	38

Order intake by region



CHF m	**2018**		2017
Europe	272	59%	233
Asia	120	26%	92
Americas	69	15%	24

All market regions show significant growth

In contrast to the previous year, all three main sales regions showed significant order growth, led by North America (plus CHF 45 million) and Europe (plus CHF 39 million), but even order activity in Asia was pleasing (plus CHF 28 million). Europe remained the largest sales region, accounting for 59% of total incoming orders.

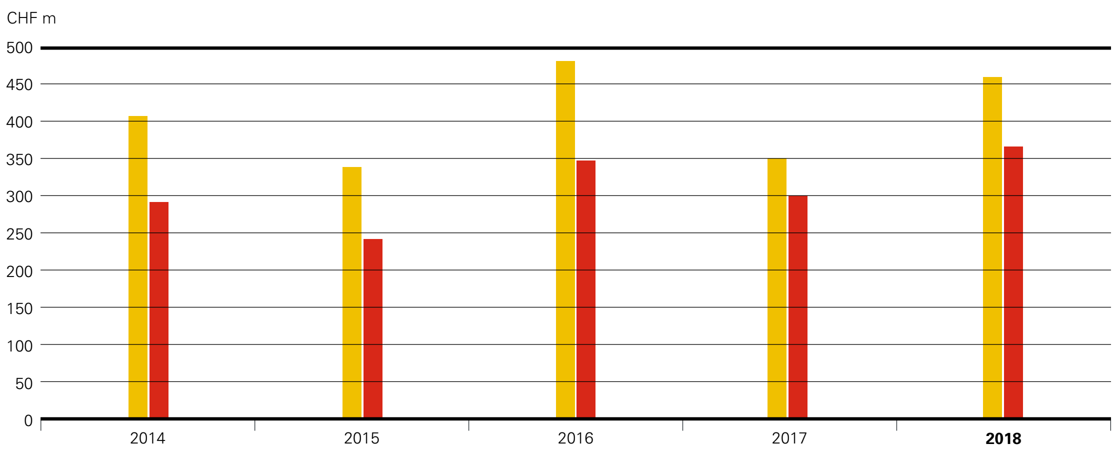
The order backlog at the end of the reporting period amounted to CHF 366 million, or 21% more than at the end of the previous fiscal year. This is the second-largest order backlog in the history of Starrag Group and ensures a stable capacity utilization rate for well over one year.

Substantially higher order intake

As already projected during the course of the reporting year, Starrag Group's annual order intake for 2018 jumped to CHF 461 million, a 32% increase from the previous year (plus 29% at constant exchange rates). This is the second-highest annual order intake in the history of Starrag Group. In comparison, new orders received by manufacturers of metal cutting machine tools in Germany rose by 4% (converted into Swiss francs), based on data from the VDW, the German national machine tool industry association.

In contrast to its order growth, Starrag Group's annual sales for 2018 declined by about 4% to CHF 389 million (minus 6% at constant exchange rates). This contraction is attributed to issues in order processing at some production sites due to unanticipated delays and to lower-than-expected margins on some customer orders.

Trend of order intake and order backlog



CHF m	2014	2015	2016	2017	**2018**
Order intake	407	333	480	349	461
Order backlog	288	238	348	302	366

EBIT margin below previous year

Earnings before interest and tax (EBIT) amounted to CHF 11.1 million or a disappointing 2.9% of sales and was well below the prior-year figure (CHF 15.3 million, 3.8% margin). The EBIT margin before restructuring charges also receded, from 3.8% in the previous year to 3.4%. This margin contraction was already foreseeable in the first half owing to delays in order processing at one of the Group's manufacturing sites. The action taken to rectify the situation and optimize our internal and external logistics did not yet produce the desired results in 2018. Moreover, related problems surfaced at other locations during the course of the second half. Initial corrective action was already introduced during the third quarter, which included the interim replacement of the management position for two sites. Additional measures («Starrag 2021» program) to improve our operational excellence were initiated and should show tangible results from fiscal 2019 onward.

Owing to the reduction in EBIT, overall profitability measured as Return on Capital Employed (ROCE) receded from 5.7% in the previous year to 3.8% for the reporting period. Lower EBIT consequently reduced net income for the year from CHF 12.1 million to CHF 8.4 million. Earnings per share amounted to CHF 2.49.

Solid balance sheet

The equity ratio at the end of 2018 was 48% (previous year: 53%). An increase in current assets and, consequently, total assets led to the lower equity ratio. Substantial payments collected from customers shortly before the close of the reporting period and the selective stockpiling of inventory to ensure an appropriate ability to deliver contributed to an increase in total assets. Meanwhile shareholders' equity was virtually unchanged at CHF 177 million.

Free cash flow rose by CHF 15.8 million to CHF 19.7 million (previous year: CHF 3.9 million), largely due to advances from customers for construction contracts in progress. Net debt was slashed to CHF 5.3 million from the prior year.

At CHF 7.1 million (CHF 11.7 million), capital expenditure was significantly below the historical average. This spending had been boosted in the previous year by the construction of the new manufacturing site in Vuadens, Switzerland. Capital expenditure for the current year primarily pertained to production equipment and IT projects to improve process optimization.

Starrag Group's average headcount for the year stood at 1'516 (FTE, previous year: 1'503) plus 151 apprentices and student interns (previous year: 162).

Strategy implementation on track

Our ongoing efforts to focus on the market segments and regions that offer the best growth and margin potential for our products and services were reflected, among other things, in the pleasing 2018 order intake from the designated priority markets of China and the US. Other strategic priorities besides this geographical focus are broadening our capabilities by offering connectivity options with the systems we make that allow them to be linked with a customer's own business processes and workflow management systems (keyword: Integrated Production Systems, IPS). Strengthening our sales and distribution network and expanding our customer service organization throughout the Group are also high on our list of strategic priorities. Preventive maintenance and services are important for consistently high levels of reliability and can thus provide tangible value to the customer.

The Droop+Rein unit rolled out its new FOGS HD (Heavy Duty) machine concept in 2018. Building on the time-tested FOG series, this new large machine tool does all the moving, not the workpiece being machined. The FOGS HD is ideal for machining large, heavy parts and concurrently offers superior quality, precision and cost-effectiveness (see page 21).

The Starrag Group's new ServicePlus concept continued to attract considerable interest throughout the year under review, particularly from customers in the United Kingdom, France and China. This maintenance service plan ensures very high machine availability under multi-year agreements that are based on fixed prices (see page 23).

The state-of-the-art new factory in Vuadens that went into operation in 2017 replaced the old production sites in Geneva and Sâles and has been operating smoothly since then. Watch manufacturers and medical technology companies are among the site's major customers. During the period under review, the Group-wide SAP system was rolled out in Vuadens for logistics and production processes, after having already introduced SAP for finance and controlling processes earlier. The old plant in Sâles was partially divested in 2017 and infrastructure-related costs are no longer being incurred at the Geneva plant, so Starrag Group’s new factory in Vuadens offers significantly more production space but the related fixed costs have remained the same.

First launched in 2006, the annual «Technology Days» event we organize at company headquarters in Rorschach for our customers attracted well over a hundred interested professionals in 2018, marking the successful continuation of this popular event. Such events are an ideal platform for presenting our latest innovations to industry professionals, the trade media and academics from engineering and other relevant universities. During the reporting period we presented our latest solutions for manufacturing structural components at the «Aero Structures Technology Days» (see page 15). Our «Turbine Technology Days» focused on process improvements that enhance the already high productivity and reliability of our turbine manufacturing systems (see page 16).

As a global leader in the machine tool manufacturing industry, Starrag Group has traditionally exhibited its products and services at relevant trade shows and 2018 was no exception. In fact, we participated in two trade shows in China alone: The first was the «China CNC Machine Tool Fair» (CCMT) held in Shanghai in April, where the Bumotec s181 and a high-precision Heckert machining system that offers superior thermal stability attracted much interest. In November Starrag Group participated in the inaugural «China International Import Expo» (CIIE). This trade fair alone attracted about one million visitors. At the AMB Stuttgart, which has a leading role for the European market, Starrag was proud to present two new products from Heckert: the 5-axis T45 machining center (see page 18) and an automated AV solution for palletizing systems (see page 22).

Risk management

For information about our holistic risk management process, please refer to page 70.

Limited currency effects

Starrag Group has steadily reduced its exposure to the Swiss franc in recent years and its exposure to exchange-rate fluctuations is now less than average for a Swiss manufacturing company. 68% of its sales originate from Group sites outside of Switzerland and raw materials are procured from the eurozone whenever possible. The percentage of total costs incurred in Swiss francs stood at 24% in 2018, while 20% of total sales were invoiced in Swiss francs.

Outlook for 2019

For the current year Starrag Group expects business in its target markets to remain intact and is therefore optimistic in its assessment of the coming months. This sentiment is backed by VDW, the German Machine Tool Builders' Association, which predicts its members will report a 2% increase in production output for 2019. Our outlook is based on the assumption that global trade disputes or other geopolitical turmoil do not escalate.

With regard to market regions, we expect activity in Europe to be stable overall. According to recent projections, however, the economy is headed for a slight slowdown. In North America, an important market for our Group, we should benefit from the expansion of our sales and distribution structures during the current year, as was already the case in 2018. As for the Asian markets, our outlook is basically positive despite the slowdown in growth that has been observed in China.

Turning to our targeted industries, we expect the positive trend in the Aerospace segment to continue in view of the high global demand for aircraft and our outstanding market position. In the Industrial segment, we expect business to remain steady. Business in the Energy segment is expected to remain at the low levels seen in preceding years. In the more heterogeneous Transportation segment, developments will vary depending on the sub-industry.

We anticipate overall order intake to normalize in 2019. As order intake for 2018 was impacted by several large orders, we expect a reduction in orders received in 2019 (in local currency). Sales (in local currency) should exceed the figure for the previous year. As for earnings, the positive volume effect stemming from the growth in sales will presumably be accompanied by higher personnel and material expenses as well as by restructuring charges. The necessary and initiated measures to increase profitability are being implemented consistently. As a result, the EBIT margin and return on capital employed (ROCE) for 2019 are expected to be in line with the previous year.

Comprehensive sustainability

The industrial and social commitment of the Starrag Group is set up for the long term. We maintain an open dialogue with all stakeholders and consider their needs in a balanced way. Measures to enhance sustainability are based on the economic, social and ecological environment.

Result-oriented corporate culture

Economic sustainability is based on a result oriented corporate culture and is intended to increase the enterprise value in the long-term to the benefit of all stakeholders. We refer here to the measures illustrated at various places in this annual report comprising all divisions of the company.

Employee-oriented HR policy

The success of the Starrag Group is essentially based on committed employees who are motivated by working in an open and modern environment and striving to deliver a top performance. The central elements of our leadership culture are therefore mutual trust, respect, regular exchange of information, cooperation, appreciation and promoting the continued development of the individual employee.

The Starrag Group is valued as an attractive employer. Whatever their area of expertise, all our employees come into direct contact with our products at various stages in the value chain and can derive the benefit for the customer as a result. This creates a natural identification with their own work. Our employees are proud to play an active part in delivering high-tech solutions to the customer based on the wealth of know-how in the workforce at every step from design to onsite maintenance around the world.

Periodic employee surveys conducted by «Great place to work», an external consultancy that specialises in workplace culture assessment and employee surveys, bolster our confidence that we are taking the right approach. These surveys convey valuable signals on ways to improve and enhance working conditions in and around the workplace, leadership performance, information and communication, and training requirements. The most recent survey conducted in 2017 was supplemented by additional questions regarding the employee's health. It showed us once again valuable potential for improvement, which we will focus on realizing in the next years. Measures are planned such as workshops to improve the stress situation at the workplace, process improvements in the entire process chain, improvements in climatic and acoustic conditions in various work areas, the expansion of the group-wide Starrag training catalog and the intensification of targeted information and communication.

The Starrag Group undertakes a variety of efforts to increase employee commitment for achieving the company's targets. Employees and employees' representatives are regularly informed by their managers, the site managers and at least once a year also by the CEO personally, at all locations, about the current state of business, current topics and projects. Furthermore, the customer magazine «Star», which is distributed worldwide twice a year to all employees, provides more indepth information from the various locations and markets. Active communication is also supported by means of periodical newsletters for the various operating sites that provide information on recent orders, major R&D projects, personnel issues and topics of cultural interest. The high level of employee satisfaction results in an attrition rate over the years well below the industrial average.

We place special emphasis on maintaining our employees' skills and expertise. In the scope of the annual formal employee performance review and target agreements, additional training and skills development needs are assessed. The courses provided by our Starrag Training Centers are particularly valuable in supporting our management level employees in the planning and realization of professional development measures for their staff. In recent years, the Center has bundled numerous training and skills development options and made them available in the form of a professional development catalogue. Courses offered include not only technical training such as control technology and maintenance courses for our processing centres, but also language and software education. We continued our efforts to establish a uniform understanding of management's role this fiscal year through the Group-wide training program for all management-level employees: the «Starrag Leadership Academy». In small, cross location and cross-functional groups, our managers dealt constructively with various aspects of leadership and were able to exchange their experiences. Active Executive Board support of the management program significantly strengthened Group and hierarchy spanning cooperation among all management level employees and helped integrate new management-level employees in the Academy. In addition, we invested substantially in the training of sales staff and focused on the increased training of skilled workers. Among other things, we focused on actively shaping the succession of departing skilled workers to their future careers and further improving practical in-house training.

Further training on the job is equally important, since certain skills and knowledge can only be acquired during the day-to-day business, learning how to deal with issues that cannot be taught in the classroom. Our own vocational training programme plays a key role in acquiring qualified specialists. In 2018, we trained 151 apprentices and students in more than ten professions (previous year: 162). All of our production locations feature modern vocational training centres in which our apprentices receive an educational foundation. These training centres were further expanded in the reporting year with targeted investments in training machines and innovative course content. To improve apprentice quality, open days were held in 2018 in the training centres for secondary school pupils, students and other candidates. Apprentices who complete their apprenticeship with good scores are retained if possible. In the reporting year, the Monchengladbach site was once again honoured by the local Chamber of Industry and Commerce as one of the top training companies in the Central Lower Rhine area.

In the framework of systematic health management – and currently based on the findings of the above-mentioned employee survey 2018 – , safety in the workplace and the health of our employees have the utmost priority. Our objective is to continuously improve the working environment, beyond what is required by occupational safety and health legislation. At the production locations, we compile relevant health and safety indicator statistics on a monthly basis and derive location specific measures based on analyses of the data. Accident figures and sick absences remained at low levels also in 2018; no serious incidents involving employees were recorded. The numerous measures implemented in previous years in the areas of safety in the workplace, health management and working atmosphere were systematically continued in 2018. A number of nutrition, healthcare and physical activity measures at the various sites are designed to enhance employee well-being. Our company sporting events such as the annual skiing day, bike-to-work event and company fun run as well as family events and Christmas party enjoyed a high level of participation.

Product energy efficiency as a central starting point

The main starting point for a greener approach in our corporate group is the energy consumption of the machines we deliver to customers, where they will be in operation for decades. In the past, and especially in regions with low energy prices, only little attention was paid to energy consumption. We expect energy consumption to play a greater role in terms of overall production costs in the future. The energy efficiency of machine tools could become one of the most important factors in the calculation of economic efficiency over the life cycle of a machine system. Therefore, the Starrag Group decided early to participate in the «Blue Competence» campaign of the European association of machine tool builders CECIMO and the national industry associations German Machine Tool Builders' Association (VDW), VDMA and Swissmem for higher energy efficiency and sustainability in manufacturing technology, and to incorporate the relevant recommendations into the development of new products. The main driver for energy efficiency in the machining of work pieces is however the cycle time. Since the Starrag Group's entire machine portfolio is characterized by higher cutting performance and as a result, shorter production times compared to the competitive environment, an investment in our machines is particularly worthwhile from the point of view of energy-savings.

Under our own eeMC (energy efficient Machining Center) label, the entire range of machine systems were made more energy-efficient. The measures range from energy-efficient engines, minimizing base load losses and using frequency controlled pumps and regenerating braking energy. The machine illumination is still based on energy-efficient LED lights. Starrag machines are specifically designed to maintain their high precision over a wide range of temperatures reducing the need for energy consuming air conditioning of production plants.

Collaborating in national and international standardization committees such as «Energy efficiency in machine tools» and the related defining of the new ISO standard 14 955 has been an important priority for us. Participating in research projects in various countries to increase the energy efficiency of machines tools means that we can quickly introduce new discoveries and technologies into product developments. The focus is on cost savings in the energy consumption of machine tools, in particular making progress in terms of drive systems, cooling lubricants, mechanical drives and stand-by and warm-up settings to reduce the required preheating time. This opens up significant potential by reducing the amount of air-conditioning in the production halls without compromising quality and functionality thanks to more precise and more intelligent production technology. The energy-saving potential over time to be attained across the entire production process and infrastructure is clearly in the double digit percent range.

Continuous improvement of environmental performance

The Starrag Group is continuously implementing measures to improve its environmental performance at all business and plant locations. This includes ensuring that our own production processes are always energy efficient and minimizing effects on the environment. For all projects involving investments, as well as maintenance, upgrade and renovation of buildings, environmental aspects are always observed alongside cost / benefit considerations. The group-wide energy consumption in 2018 with 21'600 MWh was below the level of the previous year (22’300 MWh), this in spite of increased production output and once again reached a low for many years.

The ISO 50001-based certified energy management system at the Bielefeld, Chemnitz and Mönchengladbach production sites is expected to boost Starrag Group’s energy efficiency by tapping into unused energy efficiency potential, lowering energy costs and reducing greenhouse gas emissions (including carbon emissions) and other environmental impacts. These efforts were continued in the year under review, for example with the replacement of existing lighting with energy-efficient LED light sources both in the production halls and in the outdoor areas and office buildings. In addition, air-conditioned measuring rooms and measuring equipment rooms were fitted with insulation in order to prevent the input of heat and thus reduce the energy requirements for air-conditioning.

The photovoltaic plant with a surface of 8'250 m^2, which was commissioned at the new production site in Vuadens in 2016, produced 1'230 MWh of electricity in 2018 and fed it into the grid. The factory is equipped with a state-of-the-art lighting management system using LED luminaires only.

The approximately 100 MWh of electricity produced annually by the photovoltaic plant at the Rorschacherberg site is consumed by the company itself. We also want to contribute to electromobility. For example, employees currently have two charging stations for electric vehicles at their disposal, with more to follow. In addition, we were optimizing the building’s infrastructure to promote bicycle traffic.

The company's own paint shops use environment friendly water-soluble paints rather than solvent based paints wherever possible. Recyclable materials and waste such as oil, grease and chips are reused as part of a systematic recycling process. In addition, splitting systems for cooling lubricants ensure that these materials are disposed of properly or returned to the system for re-use.

Corporate Governance

Corporate structure and shareholders

Management organisation

Board of Directors
Daniel Frutig, Chairman
Walter Fust, Vice-Chairman
Prof. em. Dr. Christian Belz
Dr. Erich Bohli
Michael Hauser
Adrian Stürm

CEO
Dr. Christian Walti

Aerospace & Energy	Transportation & Industrial Components	Precision Engineering
Dr. Christian Walti (ad interim)	Dr. Marcus Otto	Jean-Daniel Isoz
Market Segments:	**Market Segments:**	**Market Segments:**
Aero Engines	Heavy Duty Vehicles & Engines	Avionics
Aero Structures	Industrial Components	Luxury Goods
Power Turbines	On-Road Vehicles	Med Tech
Oil & Gas		
Renewables		

Customer Service
Günther Eller

Regional Sales
Dr. Christian Walti

CFO / Corporate Center
Gerold Brütsch

Participation structure

- **Starrag Group Holding AG**
  Rorschacherberg / CH
  - **Starrag AG**
    Rorschacherberg / CH
  - **Starrag Group Holding GmbH**
    Chemnitz / DE
    - **Starrag GmbH**
      Chemnitz / DE
    - **Starrag Technology GmbH**
      Mönchengladbach / DE
      - **Starrag S.A.S.**
        Saint-Etienne / FR
      - **Starrag Service Center GmbH & Co. KG**
        Ichtershausen / DE
      - **FIRMUS Grundstücks-Vermietungsgesellschaft GmbH & Co. KG**
        Mönchengladbach / DE
      - **Scharmann GmbH**
        Mönchengladbach / DE
  - **Starrag India Private Limited**
    Bangalore / IN
  - **Starrag Vuadens SA**
    Vuadens / CH
  - **Starrag USA Inc.**
    Hebron / USA
  - **Starrag Group Holdings Ltd.**
    Birmingham / UK
    - **Starrag UK Ltd.**
      Birmingham / UK
    - **Toolroom Technology Ltd.**
      Haddenham / UK
  - **Starrag (Shanghai) Co. Ltd.**
    Shanghai / PRC
  - **Starrag Makina Ticaret ve Servis Ltd.**
    Ankara / TR
  - **Starrag RU Ltd.**
    Moskau / RU
  - **Starrag Italia Srl**
    Rivoli / IT

Details of share capital and the equity interest held are given in the consolidated financial statements on page 125 of this annual report.

The registered shares of Starrag Group Holding AG (hereafter referred to as the "company") are traded at the SIX Swiss Exchange (securities number 236106, ISIN CH0002361068, ticker STGN). The market capitalisation on 31 December 2018 was CHF 144.5 million.

Shareholders

There were 1'008 shareholders registered in the company's share register on 31 December 2018. Distribution by number of shares held was as follows:

More than 100'000 shares	‣ 3 shareholders
10'001 to 100'000 shares	‣ 13 shareholders
1'001 to 10'000 shares	‣ 95 shareholders
1 to 1'000 shares	‣ 897 shareholders

278'835 shares or 8.2 % were not registered in the share register on 31 December 2018.

The following registered shareholders each held more than 3 percent of voting rights:

- Walter Fust, Freienbach, Switzerland 1'854'703 shares, 55.20 %
- Eduard Stürm AG, Goldach, Switzerland 311'079 shares, 9.26 %
- Max Rössler, Hergiswil / Parmino Holding AG, Goldach, Switzerland, 268'000 shares, 7.98%

No disclosure notifications were made during the 2018 financial year in accordance with Art. 20 of the Swiss Federal Act on Stock Exchanges and Securities Trading.

In earlier reporting periods the following current disclosure notifications were made in accordance with Art. 20 of the Swiss Federal Act on Stock Exchanges and Securities Trading:

- 29.09.2011: Max Rössler, Hergiswil / Parmino Holding AG, Goldach, Switzerland, 5.25 %
- 04.05.2011: Eduard Stürm AG, Goldach, Switzerland, 9.73 %
- 04.05.2011: Walter Fust, Freienbach, Switzerland, 54.88 %

Further information about the respective disclosure notifications is published on the website of the Disclosure Office of the SIX Swiss Exchange https://www.six-exchange-regulation.com/de/home/publications/significant-shareholders.html

The company is not aware of any pooling agreements between shareholders regarding the exercise of their rights as shareholders.

Cross-shareholdings

There are no cross-shareholdings.

Capital structure

Issued share capital

The company's issued share capital amounts to CHF 28'560'000 and is split into 3'360'000 fully paid-in registered shares with a nominal value of CHF 8.50 each.

Authorized share capital

The Board of Directors is authorized to increase the share capital up to a maximum of CHF 5'695'000 by issuing a maximum of 670‘000 fully paid-in registered shares with a nominal value of CHF 8.50 at any time until 28 April 2020. A partial increase is permitted. Subscription and purchase of new registered shares as well as any subsequent transfers are subject to § 5 of the Articles of Incorporation.

The Board of Directors specifies the date of issue, the amount of issue, the kind of payment, the execution of the pre-emptive rights and the date of entitlement for receiving a dividend. The Board of Directors is able to issue new registered shares by a fixed acceptance of a bank or a financial syndicate and subsequent offer to the present shareholders. The Board of Directors is entitled to fix the amount of issue of the new registered shares as close as possible to the market value of the registered shares. In such case, the Board of Directors is authorized to restrict or bar trading in pre-emptive rights. The Board of Directors may allow unexercised pre-emptive rights to lapse. Additionally, the Board of Directors is allowed to use such rights and the registered shares for which pre-emptive rights have been with issued but not exercised in the company's interests or place them at market conditions.

Furthermore, the Board of Directors is authorized to restrict or abrogate shareholders' pre-emptive rightsand allocate them to third parties in the event the registered shares are to be used as a means of payment in the acquisition of companies in whole or part, or for mergers, or for the exchange of shareholdings or the placement of shares as a means of financing such transactions.

Conditional share capital

The company has no outstanding conditional share capital.

Changes in capital

In the last three years under report, the share capital of Starrag Group Holding AG has not changed.

Shares

Shareholder rights are stipulated in the Swiss Code of Obligations as well as in the company's Articles of Incorporation. Each registered share with a nominal value of CHF 8.50 has one vote at the Annual General Meeting. The right to vote can only be exercised if the shareholder is registered in the company's share register as a shareholder with voting rights. Distribution of profit can be decided upon by act of law by the General Meeting and can be carried out in relation to the amount of shares. The company's Articles of Incorporation are published on www.starrag.com (click on Article of association under Investors). It is possible to obtain hard copies from the company at any time.

Participation and profit sharing certificates

The company has not issued any participation or profit sharing certificates.

Limitations on transferability and nominee registrations

In general, there are no limitations to the transfer of shares. The registration of shareholders with voting rights or beneficiaries into the share register can be denied due to the following reasons:

- if the acquirer does not explicitly confirm that he acquired and is holding the shares on his own behalf, in his own interests and for his own account;
- if and as long as the registration of the acquirer may, based on the available information, prevent the company from complying with Swiss law requiring proof of Swiss control of the company.

Nominees who are subject to recognised banking and financial market supervision are entered in the share register with voting rights for shares they acquire on behalf of third parties without limitation. If a nominee acquires more than 3 % of the outstanding share capital, he must disclose the names, addresses, nationality and shareholdings of all persons for whose account he holds 0.5 % or more of the outstanding share capital prior to registration.

Convertible bonds and options

There are no outstanding convertible bonds or issued option rights.

Board of Directors

Daniel Frutig (1962, Swiss) has been a member of the Board of Directors of Starrag Group Holding AG since April 2014 and its Chairman since April 2015.

Since April 2015 he is a member of the Board of Directors of Eugster/Frismag AG, Amriswil/Switzerland and since July 2017 Vice-Chairman and Delegate of the Board of Directors. He will further be proposed by the Board of Directors of the Zehnder Group AG for election to the Board at the Annual General Meeting in March 2019. From beginning 2015 to end 2017 Daniel Frutig was CEO of the international medical group Medela Holding AG, based in Zug/Switzerland. From 2011 to 2014 he was CEO of Arbonia AG (formerly AFG Arbonia-Forster-Holding AG). From 2005 to 2011 he headed the global Support Services Division of the British Compass Group, based in London, UK. From 2003 to 2005, Daniel Frutig was CEO of Swisscom Real Estate Inc., from 1998 to 2003 he served as Associate Partner for the consultancy firm Accenture, ultimately as Global Head of Services & Technology. Before that, Daniel Frutig worked at Sulzer AG, where he began his professional career in 1987. Daniel Frutig graduated from the Lucerne University of Applied Sciences in 1987 with an engineering degree in heating, ventilation and air conditioning systems. He earned an MBA from the University of St. Gallen in 1994 and completed the Top Management Executive Program at INSEAD in Fontainebleau, France in 2004/05. He has never held an executive management position with Starrag Group and he does not have any significant business relationships with the Group.

From left to right: Daniel Frutig, Prof. em. Dr. Christian Belz, Dr. Erich Bohli, Michael Hauser, Walter Fust, Adrian Stürm

Prof. em. Dr. Christian Belz (1953, Swiss) has been a member of the Board of Directors of Starrag Group Holding AG since 2008.

He was a tenured professor of economics at the University of St. Gallen from 1989 to 2018 with a special focus on marketing and has headed the Institute of Marketing at the University of St. Gallen from 1992 to 2018. He has never held an executive management position with Starrag Group and he does not have any significant business relationships with the Group.

Dr. Erich Bohli (1950, Swiss) has been a member of the Board of Directors of Starrag Group Holding AG since April 2017.

After completing his business studies (1977) and his doctorate (1980) at the University of Zürich, Erich Bohli held various positions at Unilever (Switzerland), including Internal Auditor, General Secretary, PR Manager and Marketing Manager for several international brands. He then worked as an independent turnaround manager, a profession he pursued for the next 15 years. During this time, he managed some international companies in a variety of fields of computer training/direct sales, branded consumer goods, OTC pharmaceuticals, multimedia and e-commerce development. From 1999 to 2010, he served as CEO of Dipl. Ing. Fust AG and also served on the boards of AEG (Schweiz) AG, Swiss Dairy Food AG and Service 7000 AG. Since then, he has been working in the area of business development and as an Internet entrepreneur. From 2010 to 2014, Erich Bohli completed a third degree in cultural and literary studies at the University of Zürich, which he completed in 2014 with a Master of Arts in Social Science.

Walter Fust (1941, Swiss) has been a member of the Board of Directors of Starrag Group Holding AG since 1988 (Chairman from 1992 until 2015).

From 1997 to 2009 he was a member of the Board of Directors of Jelmoli Holding AG (Chairman until 2007), in which he held a majority shareholding from 1996 to 2003. He was the founder of Dipl. Ing. Fust AG, which was listed on the stock market in 1987 and subsequently acquired by Jelmoli Holding AG in 1994, which later sold Dipl. Ing. Fust AG to Coop in 2007. Walter Fust has been a member of the Board of Directors of Tornos Holding AG in Moutier, Switzerland since 2014. Mr. Walter Fust holds a degree in engineering from the Swiss Federal Institute of Technology in Zürich (ETHZ). He has never held an executive position in Starrag Group and he does not have any significant business relationships with the Group.

Michael Hauser (1961, Swiss and German) has been a member of the Board of Directors of Starrag Group Holding AG since 28.04.2018.

Since 2011 he has been CEO of Tornos SA, based in Moutier, Switzerland and is also a member of the Board of Directors of Schlatter Industries AG, based in Schlieren, Switzerland. From 2008 to 2010, he was a member of the Executive Board of Georg Fischer AG and headed its division GF Agie Charmilles. From 2000 to 2008, he was a member of the Executive Board of the AgieCharmilles Group where he was responsible for the Milling Division. From 1996 to 2000 he headed the Milling Division of the Mikron Technology Group base in Biel, Switzerland. He serves also at the European Committee for Cooperation of the Machine Tool Industries CECIMO as Delegate (2005 – today), as Board Member (2012-2017) and Chairman (2009-2010). He is a member of the Board of Directors os SWISSMEM, where he heads the Machine tools and manufacturing technology division.

Michael Hauser holds a degree in business administration from the University of Mannheim. He has never held an executive management position with Starrag Group and he does not have any significant business relationships with the Group.

Adrian Stürm (1970, Swiss) has been a member of the Board of Directors of Starrag Group Holding AG since 2008.

He previously worked in Controlling, Operational Risk Control and Risk Management at UBS Switzerland AG since 2001. Prior to that he was an auditor with KPMG Zürich and London from 1997 to 2000. He is president of the Board of Directors of the family-owned company Eduard Stürm AG (Holding) and its subsidiaries Holz Stürm AG and Eduard Stürm Immobilien AG, which are all based in Goldach, Switzerland. Mr. Adrian Stürm holds a degree in economics from the University of St. Gallen (lic. oec. HSG). He has never held an executive management position with Starrag Group and he does not have any significant business relationships with the Group.

Maximum number of permissible mandates

The members of the Board of Directors may hold not more than four additional mandates in companies listed on an official stock exchange and ten additional mandates in unlisted companies. The following mandates are not subject to the aforementioned limitations:

1. Mandates in companies that are controlled by the company;
2. Mandates held at the request of the company or companies controlled by it; no member of the Board of Directors or the Executive Board shall hold more than ten such mandates;
3. Mandates in companies that do not satisfy the requirements of Art. 727 para. 1 CO, and mandates in associations, foundations, charitable organisations, trusts, employee welfare foundations and other comparable structures; no member of the Board of Directors or the Executive Board shall hold more than fifteen such mandates.

Mandates shall mean mandates in the supreme governing body of a legal entity that is required to be registered in the Swiss commercial register or a comparable foreign register. Mandates in different legal entities that are under joint control are deemed to be a single mandate.

Elections and term of office

The members of the Board of Directors are elected annually at the Annual General Meeting. There are no term limits for Board members.

Internal organizational structure

The Board of Directors shall constitute itself, unless otherwise provided by law. The Chairman shall convene meetings of the Board of Directors if and when the need arises or upon the written request of any other member. Except in urgent cases, calling notices for meetings are to be sent out five days before the scheduled date of the meeting, stating the items for discussion. Minutes are to be kept of the discussions, and are to be signed by the Chairman and the Secretary. The Board of Directors appoints a Secretary, who need not be a member of the Board of Directors. A majority of the Board of Directors must be present in order for resolutions to be validly adopted. No attendance quorum is required for the sole declaration of the execution of a capital increase and the subsequent amendment of the Articles of Association. Resolutions shall be passed by a simple majority of the votes cast. In the event of a tie vote, the Chairman, who shall always cast a vote, shall have the casting vote. Resolutions can also be passed in writing by way of circular letter, provided no member requests an oral discussion of the item in question. Resolutions adopted in this way are to be included in the minutes.

There are usually six board meetings a year, each lasting about five hours. Members of the Executive Board will be called in to these meetings if and when necessary. Board resolutions and elections are decided by a majority of votes cast. In the event of a tie vote, the Chairman has the casting vote. Resolutions can also be adopted by way of circular letter, provided no member requests oral deliberations. During the 2018 financial year the Board of Directors held eight meetings and the average duration was 6 hours. Apart from that, all members of the Board of Directors attended all meetings.

The duties and powers of the Compensation Committee are presented in the Compensation Report (page 82). The Board of Directors has not established any other committees. At our mid-sized company, the duties typically assigned to standing committees are performed by the Board of Directors as a whole. Moreover, the Executive Board regularly consults with the Chairman and individual directors on an informal basis regarding important aspects of specific topics.

Definition of areas of responsibility

The Board of Directors has the overall responsibility for the management of the company as well as the supervision of the executive management. According to an organisation directive and the accompanying functions chart, the Board of Directors has delegated most of the responsibility for daily business to the CEO. The Board of Directors though, remains responsible for duties that legally cannot be delegated and other important business. These include in particular matters such as business strategy, approval of the budget, decisions with regard to acquisitions and important personnel matters.

Information and control instruments vis-a-vis the Executive Board

Executive management control is exercised primarily through regular reporting by the Executive Board to the Board of Directors, in particular by means of:

- monthly and quarterly financial reports including commentary on the corresponding key figures (order intake, sales revenues, margins, profits, capex, liquidity, working capital);
- information about market and business developments as well as major projects;
- detailed information about market and business developments at every Board meeting, which are occasionally attended by the CEO and CFO and by other members of the Executive Board as required.

In addition, the Chairman of the Board of Directors discusses current developments with the CEO on a regular basis. Walter Fust and Adrian Stürm also exercise further control functions as members of the Supervisory Board of Starrag Technology GmbH, Mönchengladbach, Germany and Walter Fust as member of the Board of Directors of Starrag Vuadens SA, Vuadens, Switzerland.

Risk management

As one of the world's leading manufacturers of precision milling machines, the Starrag Group is faced with various risks, with the most important being:

- The weakening of the economic environment in customer markets and also of business cycles could lead to a reduction in demand;
- Misjudgments of developments in customer markets or in the competitive environment could lead to missed business opportunities or losses;
- Failure in research and development and other innovation-based activities could prevent business potential from being realised,
- A lack of availability of financial resources could have an impact on the performance and operations of the Starrag Group and
- Natural occurrences (such as fires) can have an influence on operating activities.

The Board of Directors and management give high priority to the careful handling of strategic, financial and operational risks. The Starrag Group has a holistic risk management process which is analysed every year by management and the Board of Directors, with the following aims being pursued:

- Systematically identifying special risks,
- Establishing processes to monitor, reduce and ideally to prevent risks and
- Finding the right balance between risks and opportunities.

The risk management system is based on a classic risk matrix involving the probability of occurrence and possible extent of damage (identification and classification) and includes internal guidance as well as a risk log, in which operational data as well as action planning for risk management are documented.

The Executive Board appointed a risk management representative for the moderation and implementation of the risk management, which reports directly to the CFO.

In the annual risk review there is a diligent identification, assessment, analysis and evaluation of risks and appropriate measures are defined to reduce the risks. This information is documented in a group wide risk matrix. The implementation of the measures is monitored by the risk management representative. In business processes with recurring risks the measures are integrated as process steps in the operative processes of the daily business.

On an annual basis, the Executive Board reports nature, extent and assessment of significant risks and the measures taken for risk minimization to the Board of Directors. Risks in accounting and financial reporting are monitored and reduced by an adequate internal control system.

Additional information on financial risk management can be found on page 100.

Internal auditing

In accordance with the simplifications stated in the Swiss Code of Best Practice for Corporate Governance, the Board of Directors has decided not to implement an internal audit.

The codex implies certain simplifications for medium and small companies as well as for companies with active majority shareholders.

Executive Board

Members of the Executive Board

The Board of Directors has appointed an Executive Board and has specified its authorities and duties in the organizational guidelines and the accompanying functions diagram:

From left to right: Günther Eller, Gerold Brütsch, Dr. Christian Walti, Dr. Marcus Otto, Jean-Daniel Isoz

Dr. Christian Walti (1967, Swiss) has been CEO of Starrag Group and Head of Regional Sales since 01.06.2018.

From 2012 to 2018 he was the Head of Bosch Packaging Systems in Beringen, Switzerland. He was additionally responsible for the Horizontal Packaging Systems Food as of 2017, a unit of Bosch Packaging Technology with five international production sites. His primary responsibilities were global product portfolio management, organizational optimization, expansion of key account business, implementation of Industry 4.0 and the general positioning of the company as a technology leader in its target areas of expertise. From 2005 to 2011, as a shareholder and director of Faes Finanz AG (Holding), he subsequently assumed the role of delegate of the Board of Directors and CEO of Faes AG in Wollerau, Switzerland, where he established the company's international activities, among other achievements. Previously he was a consultant at Capgemini Consulting AG, followed by management tasks at ABB Schweiz AG.

Christian Walti completed his studies in business administration at the University of St. Gallen (HSG) with a doctorate.

Gerold Brütsch (1966, Swiss) has been Chief Financial Officer (CFO) of Starrag Group since 2000 and since 2005 Deputy CEO and Head of Corporate Center.

Mr. Brutsch previously served as Chief Financial Officer of an international machine manufacturing company and as an auditor with KPMG in Zürich and San Francisco.

Gerold Brutsch is a graduate of the University of Applied Sciences in St. Gallen and earned his degree in business administration in 1990. He is a Swiss Certified Accountant and U.S. Certified Public Accountant.

Günther Eller (1960, German) has been Head of Customer Service at Starrag Group since 2007.

He previously held various management positions at OC Oerlikon in sales and customer service beginning in 1986. From 2001 to 2006 he was Managing Director of the Business Unit Customer Service of the company's Data Storage Division. He served as Managing Director of a sales and service subsidiary for OC Oerlikon's machine business from 1995 to 2001 and prior to that held various sales and key account management positions.

Gunther Eller has a degree in engineering physics.

Jean-Daniel Isoz (1959, Swiss) has been Head of Business Unit Precision Engineering since 2015, with responsibility for the brands Bumotec and SIP covering the market segments Avionics, Luxury Goods and Med Tech.

Before he was responsible for the former Business Unit 4 with the brand Bumotec in Sales (Switzerland) and SIP in Geneva (Switzerland). Prior to that, he had served as Managing Director of SIP from 2006. After first working as sales manager for SIP from 2000 to 2002, he took over as CEO of Bula Machines until end of 2005. Prior to that, he held various management positions in production and customer service at Bobst SA Lausanne, USA and Asia since 1985.

Mr. Isoz holds a degree in electrical engineering and has completed Finance and Marketing programs at INSEAD in Fontainebleau, France.

Dr. Marcus Otto (1964, German) is in charge of the Business Unit Transportation & Industrial Components since Oktober 2016. This unit responsible for the Heckert product range is focused onto the market segments Heavy Duty Vehicles & Engines, On-Road Vehicles and Industrial Components. Since May 2016, Dr. Marcus Otto had acted as interim managing director of the Heckert GmbH in Chemnitz.

He previously held various management and as managing director positions at Thyssen-Krupp (1991 to 2001) and Gildemeister (2001 to 2011). Since 2011, Dr. Marcus Otto has beenan independent management consultant and interim manager, among others, for Schiess Tech GmbH, Berlin, and as Senior Adviser for Staufen AG.

Dr. Marcus Otto obtained his diplomas in engineering and business engineering at Ruhr-University Bochum, where he also received his PhD degree.

Maximum number of permissible mandates

The members of the Executive Board may hold not more than four additional mandates in companies listed on an official stock exchange and ten additional mandates in unlisted companies.

The following mandates are not subject to the aforementioned limitations:

1. Mandates in companies that are controlled by the company;
2. Mandates held at the request of the company or companies controlled by it; no member of the Board of Directors or the Executive Board shall hold more than ten such mandates;
3. Mandates in companies that do not satisfy the requirements of Art. 727 para. 1 CO, and mandates in associations, foundations, charitable organisations, trusts, employee welfare foundations and other comparable structures; no member of the Board of Directors or the Executive Board shall hold more than fifteen such mandates.

Mandates shall mean mandates in the supreme governing body of a legal entity that is required to be registered in the Swiss commercial register or a comparable foreign register. Mandates in different legal entities that are under joint control are deemed to be a single mandate.

Acceptance of mandates/appointments outside the company by members of the Executive Board requires prior approval by the Board of Directors.

Management contracts

There are no management contracts with companies outside Starrag Group.

Compensation, participation and loans

Information to compensation and loans are specified in the remuneration report (page 85) and information regarding participation can be found in the notes to the financial statements (page 126).

Shareholders' participation rights

Shareholders of Swiss corporations have extensive participation and protective rights. The participation rights include, in particular, the right to participate in General Meetings, the right to express opinions and the right to vote. The protective rights include, among others, the right for inspection and information, the right for a special audit, the right to convene a General Meeting, the right to add topics to the agenda, the right to challenge resolutions and the right to raise claims regarding responsibility.

Voting rights restrictions and representation

There are no restrictions on the voting right for all shareholders whose right to vote is registered in the share register. Every shareholder is entitled to be represented by another shareholder whose power to do so is proven in writing.

Statutory quorum

There is no statutory quorum.

Convocation of the Annual General Meeting of shareholders

The Articles of Association contain no provisions on convening General Meetings that deviate from the law. A notice convening a General Meeting must be sent in writing to shareholders at least 20 days before the scheduled date of the General Meeting.

Extraordinary General Meetings are to be called upon resolution of a General Meeting of shareholders or the Board of Directors, or at the request of the auditors, or if shareholders representing at least 3 percent of the share capital request in writing that a General Meeting be called, specifying the agenda items to be discussed and the proposals to be voted on.

Agenda

The notice convening a General Meeting shall state the agenda items and the motions of the Board of Directors as well as any proposals by shareholders who have duly requested that a General Meeting be called or that an item be included in the agenda. Shareholders representing an aggregate par value of at least CHF 500'000 may request that an item be included on the agenda of a General Meeting. Such inclusion must be requested in writing at least 40 days prior to the next scheduled General Meeting, specifying the agenda items to be discussed and shareholder proposals to be voted on.

Registration in the share register

The Board of Directors keeps a share register in which the shareholders and beneficiaries are entered with their names and addresses. Shareholders and beneficiaries are only recognized as such if they are registered in the share register. Any entry requires the approval of the Board of Directors, a committee determined by the Board of Directors or a single person determined by the Board of Directors. The Board of Directors has the right to demand from the applicant all information which might be useful for the assessment of the application for registration. The entry in the share register of a shareholder with the right to vote or a beneficiary can be denied for the following reasons:

- if, on request of the company, the acquirer does not explicitly confirm that he did not obtain the shares in his name, in his own interest and on his own account and that he will hold them;
- if and as long as the registration of the acquirer may, based on the available information, prevent the company from complying with Swiss acts which ask for Swiss control.

Acquirers who are not yet recognized by the company are to be registered in the share register as shareholders without voting rights. The corresponding shares are deemed not to be represented at the General Meeting. After hearing the person in question, the Board of Directors can delete the registration if it resulted from invalid information. The acquirer has to be informed immediately. The record date for the inscription of registered shareholders into the share register in connection with the attendance of the General Meeting will be set on a date shortly before the statutory period on the convocation of the General Meeting.

Changes of control and defence measures

Duty to make an offer

There are no statutory rules regarding «opting-out» and «opting-up» which differ from law.

Clauses on changes of control

There are no clauses on changes of control.

Auditors

Duration of the mandate and term of office of the auditor in charge

PricewaterhouseCoopers AG, St. Gallen, has been the statutory and group auditor since 1981. It is elected for a term of office of one year by the General Meeting. The current term of office expires at the Annual General Meeting in 2019. The auditor in charge, Beat Inauen, was first assigned auditing responsibilities with the auditing of the 2012 annual report. The maximum period as auditor in charge based on the legal rotation principle is seven years for Swiss companies.

Audit fees

Audit fees paid to PricewaterhouseCoopers AG during the 2018 financial year and charged to the consolidated financial statements for 2018 amounted to TCHF 275.

Additional fees

No additional non-audit fees were paid to Price-waterhouse-Coopers AG in the financial year 2018.

Supervisory and control instruments pertaining to the auditors

The external audit is supervised by the Board of Directors. The Board of Directors assesses the audit plan, the audit scope, the execution and the results of the audit. The auditors report directly to the Board of Directors. In the reporting year, the auditor in charge and his deputy attended one Board meeting each. At those meetings, the audit schedule, scope, and results as well as other important elements of auditing were discussed.

Information policy

The company informs its shareholders and the capital market in an open and timely fashion and with the highest possible levels of transparency. The most important information tools are the business and interim reports, the www.starrag.com website, media releases, balance sheet presentations for the media and analysts and the Annual General Meeting.

As a company listed on the stock exchange, the Starrag Group Holding AG is required to disclose information relevant to the share price in accordance with the listing regulations of the SIX Swiss stock exchange. Any interested party can register at http://www.starrag.com/index.php/en/ (click on E-Mail distribution under Investors) to receive potential information relevant to the share price directly from the company via the E-Mail distribution list. This information is also available on the website (http://www.starrag.com/index.php/en/, click on Media releases under Investors) and can be provided to any interested parties upon request.

Corporate calendar:

- **26.04.2019**
  Annual General Meeting in Rorschach
- **24.07.2019**
  Half-year report 2019
- **24.01.2020**
  Sales and orders 2019
- **06.03.2020**
  Presentation of 2019 results for analysts and the media in Zurich
- **25.04.2020**
  Annual General Meeting in Rorschach

Related information and documents will be published on our website www.starrag.com to the extent possible.

Official announcements and invitations will be sent by post to shareholders using the addresses recorded in the share register. Public announcements prescribed by law are made by publication in the Swiss Official Gazette of Commerce.

Contacts:

Gerold Brütsch, CFO

P +41 71 858 81 11
investor@starrag.com

Compensation Report

Compensation report

Introduction

This compensation report contains information on the compensation of the members of the Board of Directors and the Executive Board. The report was prepared in accordance with the Ordinance against Excessive Compensation with respect to Listed Stock Corporations (OaEC). Furthermore, the report is consistent with the Swiss Code of Best Practice for Corporate Governance of the Swiss Business Federation economiesuisse and Chapter 5 of the Appendix to the SIX Exchange Regulation Corporate Governance Directive.

The information included under the headings «Remunerations» and «Loans and credits» was audited by the statutory auditors.

Compensation policy and principles

The Starrag Group ensures comprehensive transparency regarding the compensation of members of the Board of Directors and the Executive Board. Within the Starrag Group, compensation is based on the principles of value-based management with the aim of ensuring that management compensation is in line with market conditions and thus ensuring that qualified executives can be recruited and remain with the company in the long-term. Compensation policy also promotes entrepreneurial thinking and acting and aligns the interests of executive bodies with those of the shareholders.

The compensation of the members of the Board of Directors and the Executive Board is determined on the basis of individual tasks and performance, the course of business of the Company, market conditions in the respective global sales and local labour market as well as salary comparisons with regard to the function, business activity, size and internationality of employers with similar positions. These criteria are applied individually for each member of the Executive Board at their due discretion.

Powers and duties in determining compensation

The responsibilities in determining the level of remuneration are regulated on the basis of the Ordinance against Excessive Compensation with respect to Listed Stock Corporations (OaEC) and in the Articles of Association and Organisational Regulations of Starrag Group Holding AG.

General Meeting

The General Meeting has the non-transferable power to:

- elect and dismiss members of the Compensation Committee;
- approve the level of compensation of the Board of Directors and the Executive Board;
- determine the statutory principles governing the performance-related compensation of the members of the Board of Directors and the Executive Board, as well as other provisions of the Articles of Association in accordance with the Ordinance against Excessive Compensation with respect to Listed Stock Corporations.

Each year, the ordinary General Meeting shall vote on the maximum total compensation of the Board of Directors for the period until the next ordinary General Meeting and the maximum total compensation of the Executive Board for the financial year following the General Meeting.

In addition, the General Meeting approves the compensation report retrospectively in a non-binding consultative vote.

Board of Directors

Subject to the powers of the General Meeting, the Board of Directors is responsible, on the proposal of the Compensation Committee, for determining the level of compensation that is to be paid to the members of the Board of Directors and the members of the Executive Board. In particular, on the proposal of the Compensation Committee it has the following tasks and responsibilities:

- Defining the compensation system for the members of the Board of Directors and the Executive board in accordance with the Articles of Association;
- Reviewing the fixed compensation of the members of the Board of Directors and the Executive Board and determining the same, within the framework of the total compensation approved by the General Meeting;
- Determining any additional compensation for the members of the Board of Directors for special tasks and bonuses for extra services within the framework of the total compensation approved by the General Meeting;
- Determining variable profit-sharing plans for the members of the Board of Directors and the Executive Board in accordance with the Articles of Association and within the framework of total compensation approved by the General Meeting;
- Preparation of the compensation report.

Compensation Committee

The Compensation Committee shall have the following duties and powers (fundamental principles):

- Drafting and periodic review of the compensation policy and principles of Starrag Group and periodic review of the implementation thereof, and submission of proposals and recommendations to the Board of Directors;
- Preparation of all relevant decisions of the Board of Directors relating to the compensation of the members of the Board of Directors and the Executive Board, and submission of proposals to the Board of Directors concerning the nature and amount of the annual compensation of the members of the Board of Directors and the Executive Board, and preparation of a proposal for the maximum total amount of compensation;

During the 2018 financial year, the Compensation Committee held two meetings at which all members were present as well as numerous informal consultations in the fulfillment of its statutory duties. In the previous year, the Compensation Committee developed and introduced a new variable compensation system for Executive Board members for the period from 2018 to 2020, with the aim of focusing even more consistently on growth and increasing the profitability of the units and the Group.

The Board of Directors and the Compensation Committee can engage external experts on compensation issues to obtain neutral advice and/or data as a basis for comparison of compensation levels. The Board of Directors and the Compensation Committee performed their duties during the past year without the involvement of external consultants.

Compensation elements

Board of Directors

The members of the Board of Directors receive fixed compensation and variable profit-based compensation. The Board of Directors may provide additional compensation to individual members for extra duties (serving on committees, etc.).

The variable profit-based compensation of members of the Board of Directors is calculated on the basis of net income minus a minimum return on net equity that is determined based on benchmark interest rates. The amount of the minimum return on net equity and each director's calculated share of profits as well as other details (payout terms and date, caps on variable pay, etc.) are determined by the Board of Directors. If net income falls below the given minimum return on net equity, no variable profit-based compensation will be paid. Variable profit-based compensation of members of the Board of Directors is capped at CHF 125,000 per director.

The fixed compensation is paid monthly in cash. The variable profit-based compensation is paid annually in cash after the consolidated financial statements have been approved by the General Meeting. The Company does not have any stock ownership plans.

The members of the Board of Directors are not insured through pension plans or comparable schemes of the Company or Group companies. Members of the Board of Directors are not entitled to severance pay or other benefits upon separation of service.

Executive Board

The members of the Executive Board receive fixed compensation and variable profit-based compensation. The Board of Directors may provide additional compensation for exceptional job performance.

The Board of Directors determines the variable profit-based compensation of the Executive Board members based on individual performance metrics pertaining to the areas of operation for which they are responsible and/or to collective performance metrics pertaining to the consolidated results. Examples of these performance metrics are order intake, sales, EBIT, net income and other financial metrics. The Board of Directors can also make variable profit-based compensation dependent on the attainment of other corporate goals.

In the year under review, the variable profit-based compensation of members of the Executive Board was calculated on the basis of EBIT minus a minimum EBIT threshold. Group EBIT was one measure of performance. For the Business Unit heads, a second measure based on the EBIT of their particular area of responsibility was applied. This second component accounts for around two-thirds of the total variable compensation for the heads of the Business Units and is based on the average expected profit, while the percentage of their compensation based on Group EBIT amounts to approximately one-third of their total variable compensation. If EBIT falls below the specified minimum threshold, no variable compensation will be paid. Variable compensation of members of the Executive Board is limited to 150% of their fixed compensation.

The fixed compensation is paid monthly in cash. The variable profit-based compensation is paid annually in cash after the consolidated financial statements have been approved by the General Meeting. The company does not have any stock ownership plans.

Pension benefits are only paid to members of the Executive Board within the framework of domestic and foreign pension plans and comparable plans of the Company or Group companies. The benefits to plan participants and the employer's plan contributions are defined in the aforementioned plans mentioned or the corresponding plan regulations.

An additional amount of compensation as defined in Art. 19 of the OaEC equivalent to 40% of the approved total amount of compensation of the Executive Board is available for persons appointed to the Executive Board after the maximum total amount was approved. Compensation may be paid by the Company or the corresponding Group company for services rendered at companies that are directly or indirectly controlled by the Company. Such compensation must be consolidated at Group level and included in the votes on compensation at the General Meeting.

Company loans and credits to a member of the Executive Board and any guarantees or other collateral offered to secure the obligations of an Executive Board member may not exceed three times the annual salary of the respective member of the Executive Board.

Members of the Executive Board are not entitled to severance pay or other benefits upon separation of service.

Remuneration

CHF 1'000	**2018**					2017				
	Fixed	Additional services	Variable	Pension and other	Total	Fixed	Additional services	Variable	Pension and other	Total
Prof. em. Dr. Christian Belz	50	-	12	4	66	50	-	29	6	85
Dr. Erich Bohli (from 28.4.2017)	50	4	12	4	70	33	15	20	3	71
Prof. Dr. Frank Brinken (until 28.4.2018)	17	4	4	1	26	50	32	29	7	118
Daniel Frutig (Präsident)	110	60	12	13	195	80	30	29	11	150
Michael Hauser (from 28.4.2018)	50	63	12	6	131	50	44	29	5	128
Walter Fust	33	-	8	4	45					na.
Adrian Stürm	50	13	12	5	80	50	12	29	7	98
Total Board of Directors	**360**	**144**	**72**	**37**	**613**	313	133	165	39	650
Variable as percentage of total compensation			13%					27%		
Total Executive Board	**1'878**	**-**	**1'215**	**390**	**3'483**	1'801	-	620	332	2'753
Variable as percentage of total compensation			39%					26%		
Thereof:										
‣ Walter Börsch, CEO (until 31.5.2018)					**n/a**	368		246	106	720
‣ Jean-Daniel Isoz, Head Business Unit Precision Engineering	**240**	**-**	**349**	**83**	**672**		-			n/a
Variable as percentage of total compensation			59%					40%		

Compensation is reported on a gross basis (including employee contributions to pension plans and social insurance schemes)
The reported contributions to pension plans and social insurance schemes include the employer's contributions.

Notes regarding remuneration

Compensation for additional duties performed by members of the Board of Directors is owed in connection with the recruitment of a new CEO, Walter Fust and Adrian Stürm's service on the Supervisory Board of Starrag Technology GmbH in Mönchengladbach, Walter Fust and Prof. Dr. Frank Brinken's service on the Board of Directors of Starrag Vuadens SA (Frank Brinken until April 28, 2018) and the work of the Compensation Committee. The variable compensation paid to members of the Board of Directors in 2018 was lower as net income for the year was lower.

The fixed compensation paid to members of the Executive Board in 2018 was higher due to the change of CEO (Christian Walti joined the Company on 1 June 2018 while Walter Börsch stepped down at the same time but continued to receive compensation during the transition period to 30 September 2018). This was offset by lower fixed compensation due to the departure of Norbert Hennes on 30 September 2018, after which CEO Christian Walti served as the acting head of the Aerospace & Energy Business Unit.

The variable compensation of the Executive Board was higher in 2018 than in the previous year as higher variable compensation was due as a result of the significantly improved EBIT of several units and the change of the CEO (Christian Walti joined the company on 1 June 2018 while Walter Börsch stepped down at the same time but continued to receive compensation during the transition period to 30 September 2018).

No severance pay or other benefits were paid upon separation of service.

All compensation was assigned to the appropriate period in accordance with the Swiss GAAP FER accounting and reporting recommendations (accrual basis).

Loans and credits

In the year under review, as well as in previous years, Starrag Group granted no loans or credits to current or former members of the Board of Directors or the Executive Board. Nor did Starrag Group provide compensation or any loans or credit to any related parties of current or former members of the Board of Directors or the Executive Board or to any current or former members of the Board of Directors or the Executive Board at non-market rates or conditions.

Report of the statutory auditor

Report of the statutory auditor
to the General Meeting of Starrag Group Holding AG

Rorschacherberg

We have audited the remuneration report of Starrag Group Holding AG for the year ended 31 December 2018. The audit was limited to the information according to articles 14–16 of the Ordinance against Excessive Compensation in Stock Exchange Listed Companies (Ordinance) on pages 84 to 85 of the remuneration report.

Board of Directors' responsibility

The Board of Directors is responsible for the preparation and overall fair presentation of the remuneration report in accordance with Swiss law and the Ordinance against Excessive Compensation in Stock Exchange Listed Companies (Ordinance). The Board of Directors is also responsible for designing the remuneration system and defining individual remuneration packages.

Auditor's responsibility

Our responsibility is to express an opinion on the accompanying remuneration report. We conducted our audit in accordance with Swiss Auditing Standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the remuneration report complies with Swiss law and articles 14–16 of the Ordinance.

An audit involves performing procedures to obtain audit evidence on the disclosures made in the remuneration report with regard to compensation, loans and credits in accordance with articles 14–16 of the Ordinance. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatements in the remuneration report, whether due to fraud or error. This audit also includes evaluating the reasonableness of the methods applied to value components of remuneration, as well as assessing the overall presentation of the remuneration report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

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pwc

Opinion
In our opinion, the remuneration report of Starrag Group Holding AG for the year ended 31 December 2018 complies with Swiss law and articles 14–16 of the Ordinance.

PricewaterhouseCoopers AG

Beat Inauen	Oliver Illa
Audit expert Auditor in charge	Audit expert

St. Gallen, 28 February 2019

Financial Report

Financial commentary

Significantly higher order intake – record order backlog – sales and EBIT margin down y-o-y

- Order intake +32% to CHF 461 million
- Record-high order backlog of CHF 366 million, ensuring stable capacity utilisation for over one year
- Sales down 4% to CHF 389 million (currency adjusted down 6%)
- EBIT declined to CHF 11.1 million – operating margin of 2.9% – return on capital ROCE 3.8%
- Net income CHF 8.4 million – earnings per share CHF 2.49
- Solid balance sheet with 48% equity ratio
- Dividend of CHF 1.00 per share – payout ratio 40%

CHF m	**2018**	2017	Change
Order intake	461.0	349.3	32.0%
Sales revenue	388.8	405.3	-4.1%
Operating result EBIT	11.1	15.3	-27.2%
Net income	8.4	12.1	-30.6%
EBIT as percentage of sales revenue	2.9%	3.8%	n/a
Return on capital employed ROCE	3.8%	5.7%	n/a
Return on equity ROE	4.7%	7.5%	n/a
Cash flow from operating activities	26.9	13.1	105.4%
Capital expenditure in non-current assets	7.1	11.7	-38.8%
Free cash flow	19.7	3.9	408.4%
Earnings per share (in CHF)	2.49	3.58	-30.4%
Profit distribution per share (in CHF) [1]	1.00 [2]	1.50	-33.3%
Employees (full-time equivalents, annual average)	1'516	1'503	0.9%

CHF m	**31.12.2018**	31.12.2017	Change
Order backlog	365.9	301.7	21.3%
Total assets	369.7	335.3	10.3%
Capital employed	205.0	221.9	-7.6%
Net debt	5.3	20.7	-74.2%
Shareholders' equity	176.6	177.3	-0.4%
Equity ratio	47.8%	52.9%	n/a

[1] In the form of a distribution of capital contribution reserves free of withholding tax.
[2] Proposal from the advisory board to the General Meeting.

Starrag Group closed the 2018 financial year with net income of CHF 8.4 million. This is less than in the previous year owing to issues in order processing at a few production sites. The EBIT margin was a disappointing 2.9% of sales, or 3.4% excluding restructuring charges, compared to the prior-year margin of 3.8%. Order intake amounted to CHF 461 million, an increase of 32% year-on-year and the second-highest annual order intake in the history of the company, resulting in a record-high order backlog of CHF 366 million. This backlog of orders ensures steady capacity utilisation throughout the current year.

Return on capital employed amounted to 3.8% (previous year: 5.7%) and was less than the weighted average cost of capital. The Board of Directors will propose a dividend of CHF 1.00 per share at the Annual General Meeting on 26 April 2019, to be paid from capital contribution reserves and thus exempt from Swiss withholding tax. This corresponds to a payout ratio of 40% and a dividend yield of 2.3%.

Decline in sales

Sales revenue for 2018 declined by 4.1% from the previous year (CHF 405 million) to CHF 389 million (-6.3% at constant exchange rates). This decrease is attributed to problems in fulfilling orders at a few production sites due to delays.

High order intake leads to record order backlog

Order intake in 2018 was very pleasing. Orders received increased by 32% versus the previous year (+29% at constant currencies) and the total value of orders received over the course of the year amounted to CHF 461 million, which is the second-highest annual order intake in the history of Starrag Group.

This order growth was fueled primarily by large orders placed by customers in the Aerospace and Transportation industries. The Industrial segment also showed a pleasing trend, whereas orders in the Energy segment were unchanged y-o-y. Standard services represented CHF 80 million of the order intake (previous year: CHF 69 million) and the share of more stable business (project value < CHF 5 million) amounted to CHF 237 million (previous year: CHF 240 million).

Thus, the order situation is characterized by the record high order backlog for new equipment of CHF 366 million. This is 21% higher than the year-end 2017 figure. The new equipment business always requires substantial additional customer services and support, so the current order backlog ensures a healthy capacity utilization rate for more than one year. The book-to-bill ratio (incoming orders to sales) was 1.19 (previous year: 0.86).

Operating margin squeezed by delays in project fulfillment and higher unit labor costs

Gross profit (sales revenue minus cost of materials plus / minus change in inventory) amounted to CHF 224 million and was CHF 2 million or 1.1% higher than the prior-year figure of CHF 222 million as a result of exchange-rate movements (-1.0% at constant currencies). At 57.7%, the gross profit margin was higher than the year-ago margin of 54.8% (+2.9%). This margin expansion is largely due to a CHF 6.8 million increase in the inventory of finished and unfinished goods for which work was performed in the year under review and reflected in the change in inventory, whereas the associated sales revenue will not be realized until a future reporting period.

The gross profit margin was also positively impacted by the lower volume of new systems business with a high external procurement share and a higher average percentage of completion of the orders in progress and therefore a lower share of material costs. Negative factors were the selective reassessment of some projects due to higher-than-expected costs, lower margins stemming from a shift in the product mix and the higher cost of certain materials.

Personnel expenses amounted to CHF 146 million, an increase of CHF 6.9 million or 5.0% from the previous year. Exchange translation differences accounted for CHF 3.6 million of this increase, resulting in a CHF 3.3 million or 2.4% increase in personnel costs at constant currencies. This increase is attributable to additional personnel expenses of CHF 2.7 million in the wake of increased unit labor costs, especially in Germany and in emerging markets, and to restructuring-related charges of CHF 1.9 million (previous year: CHF 0.3 million).

Other operating expenses amounted to CHF 56 million or 3.4% less at constant currencies compared to the previous year, which can mainly be traced to lower order-related costs. Due to the lower sales volumes, other operating expenses as a percent of total sales revenue edged up from 14.0% to 14.5%. Depreciation and amortization was slightly higher at CHF 11.1 million owing to exchange-rate movements (previous year: CHF 10.8 million).

Earnings before interest, taxes, depreciation and amortization (EBITDA) declined by CHF 3.9 million to CHF 22.2 million (previous year: CHF 26.1 million). EBIT was likewise lower at CHF 11.1 million, a decline of CHF 4.1 million from the previous year (CHF 15.2 million). Excluding restructuring costs, EBIT declined from CHF 15.6 million to CHF 13.0 million and the corresponding margin before restructuring was 3.4% (previous year: 3.8%). This margin contraction is mainly the result of issues in order processing at a few production sites.

Profitability of capital employed diminished

Due to the lower operating profits and higher working capital over the course of the year, the return on capital employed (ROCE) receded to 3.8% (previous year: 5.7%). This ROCE is well below the company's weighted average cost of capital and obviously not satisfactory.

High investment in R&D

Investment in R&D remained at a high level. During the year under review CHF 28.6 million or 7.4% of sales revenue was spent on developing innovative products and applications as well as on customer-specific upgrades and modifications. After consideration of government grants and the capitalization and depreciation of R&D projects, a net amount of CHF 29.3 million (7.5% of sales) was charged to the income statement (net CHF 27.4 million or 6.8% of sales in the previous year) for research and development.

Decline in net income and earnings per share

The net financial result amounted to CHF -2.2 million (previous year: CHF -1.6 million). Exchange-rate losses of CHF 0.3 million arising from a weaker euro contributed to this decline, whereas in the previous year exchange-rate gains of CHF 0.5 million were booked. The tax rate for the period was a low 5.4 percent of sales revenue (11.5% in the previous year), which reflects the positive impact of the larger proportion of profit from low-tax jurisdictions. Net income for the year fell from CHF 12.1 million to CHF 8.4 million and earnings per share declined from CHF 3.58 to CHF 2.49. The resulting return on equity was 4.7% (7.5% in the previous year).

Balance sheet still sound

Total assets as of 31 December 2018 rose to CHF 370 million, an increase of 10.3% over the year (previous year: CHF 335 million), which can be traced to substantial payments received from customers shortly before the close of the reporting period, which led to an increase in cash balances, as well as to the selective stockpiling of inventory.

Net capital employed for construction contracts in progress declined from CHF 61 million to CHF 38 million due to higher advance payments on the significantly higher amount of orders on hand. A total of CHF 87 million was stated under receivables (previous year: CHF 91 million) and CHF 49 million under liabilities (previous year: CHF 30 million). Capital employed consists of contract costs and recognized margins of CHF 312 million (previous year: CHF 281 million), less advance payments received in the amount of CHF 274 million (previous year: CHF 220 million). This led to an increase in the financing ratio of construction contracts in progress from 78% to 88%.

Current assets increased by 17.8% to CHF 264 million in the reporting period (previous year: CHF 224 million). Due to considerable incoming payments from customers shortly before the reporting period closed, cash and cash equivalents rose by CHF 21 million. Inventory increased by CHF 20 million due to selective stockpiling of materials to ensure an appropriate ability to deliver, in contrast to the previous reporting period when inventory showed a y-o-y decline of CHF 12 million. Trade receivables by due date continue to show a healthy structure. Non-current assets declined to CHF 105 million (previous year: CHF 111 million). Capital expenditure amounted to CHF 7.3 million (previous year: CHF 12 million) and was offset by depreciation in the amount of CHF 11 million (previous year: CHF 11 million).

Liabilities increased by 22% to CHF 193 million (previous year: CHF 158 million). This is primarily attributed to an increase of CHF 18 million in liabilities for construction contracts in progress as of the reporting date for which the advance payments received exceeded the accrued contract costs and recognized margins. Financial liabilities rose CHF 5 million to CHF 37 million as a result of the increase in current assets driven by the record-high order backlog.

Shareholders' equity was virtually unchanged at CHF 177 million. The increase of CHF 8.4 million from net income for the period was more than balanced out by the dividend payout of CHF 5.1 million and exchange-rate losses of CHF 4.4 million attributed to the weaker euro at the close of the reporting period. The equity ratio at year-end remained solid at 48% (previous year: 53%).

Higher free cash flow

Cash flow from operating activities rose from CHF 13.1 million to CHF 26.9 million due primarily to the higher level of funding of construction contracts in progress while an increase in inventory – related to the record-high backlog of orders – had a diminishing effect on cash flow.

Cash outflow from investing activities of CHF 7.1 million for the reporting period was clearly lower than in the previous year (CHF 9.2 million) given the reduced level of investment activity and it was also less than depreciation for the year (CHF 11.1 million).

Thanks to the substantial increase in operating cash flow, free cash flow jumped from CHF 3.9 million to CHF 19.7 million. Capital expenditure included CHF 1.7 million primarily for the energy-efficient renovation of existing manufacturing buildings and structures. An additional CHF 3.9 million was invested in the expansion and modernization of machinery and production equipment at the manufacturing plants and the development of new technologies and products and CHF 1.6 million was spent on upgrading IT systems to improve integration within Starrag Group's global network, for example, and support business processes even better. A total of CHF 1 million was invested in expansion-related projects while CHF 6 million was classified as replacement expenditure.

Net cash flow from financing activities amounted to CHF 1.6 million. This includes a CHF 7.4 million increase in current financial debts and the outflow of CHF 5.1 million from capital contribution reserves for the withholding tax-exempt dividend distributed in April 2018. The dividend corresponded to a payout ratio of 42% of net income for 2017.

Currency effects

The EUR/CHF currency pair traded at higher levels in 2018 than the average rate for 2017, which resulted in a positive currency translation effect in the income statement and the cash flow statement despite the weakening of the euro in the final months of 2018. Reported sales revenue increased by 2.2%, amongst others. Conversely, the much lower year-end exchange rate led to a negative currency effect in the balance sheet that reduced reported equity by CHF 4 million, amongst others. The average exchange rate for the year used for currency translation in the income and cash flow statements was 1.1677 and thus higher than the rate of 1.1208 used in the previous year while the closing exchange rate at the end of the reporting period used for translating the balance sheet was considerably lower at 1.1373 (previous year: 1.1808).

The impact of currency transaction effects was limited to the revaluation of open positions in foreign currencies, which led to a negative net currency result of CHF 0.3 million mainly due to the weaker euro.

Starrag Group's overall exposure to exchange-rate movements is less than average compared to other Swiss manufacturing companies. Currently 68% of its sales originates from Group sites located outside Switzerland (previous year: 71%); materials are sourced from the euro area whenever possible. Nevertheless, the share of costs incurred in Swiss francs in 2018 stood at 24%, while 20% of sales was invoiced in Swiss francs (previous year: 22% of costs and 18% of sales). To reduce its exchange rate exposure and maintain the competitiveness of the company's manufacturing plants in Switzerland, thereby offsetting pressure from the strong Swiss franc, Starrag Group is constantly seeking ways to improve productivity.

Consolidated income statement

CHF 1'000		2018	2017
Sales revenue	1	388'773	405'345
Other operating income	2	2'059	1'926
Change in inventory of finished and unfinished goods		6'774	-10'923
Cost of materials and components		-173'111	-174'240
Personnnel expenses	3	-146'058	-139'132
Other operating expenses	4	-56'259	-56'877
Earnings before interest, taxes, depreciation and amortization EBITDA		**22'178**	26'099
Depreciation of tangible fixed assets	9	-8'303	-8'518
Depreciation of intangible assets	10	-2'766	-2'327
Operating result EBIT		**11'109**	15'254
Financial result	5	-2'221	-1'568
Profit before taxes		**8'888**	13'686
Income tax expenses	17	-484	-1'578
Net income		**8'404**	12'108
Thereof:			
‣ Shareholders of the company		8'359	12'023
‣ Minority shareholders		45	85
Earnings per share in CHF	6	2.49	3.58
Diluted earnings per share in CHF	6	2.49	3.58

The enclosed notes are part of the consolidated financial statements.

Consolidated balance sheet

	CHF 1'000	**31.12.2018**	31.12.2017
Cash and cash equivalents		31'842	11'072
Receivables from goods and services	7	121'492	122'925
Other receivables		3'572	4'000
Inventories	8	104'782	84'886
Prepaid expenses and accrued income		2'713	1'475
Total current assets		**264'401**	224'358
Tangible fixed assets	9	99'215	104'176
Intangible assets	10	6'036	6'743
Total non-current assets		**105'251**	110'919
Total assets		**369'652**	335'277

	CHF 1'000	**31.12.2018**	31.12.2017
Financial debts	11	34'072	27'853
Payables for goods and services		30'639	27'731
Other liabilities		12'320	10'328
Provisions	12	4'611	5'476
Accrued expenses and deferred income	13	85'221	58'815
Total current liabilities		166'863	130'203
Financial debts	11	3'094	3'882
Provisions	12	23'051	23'897
Total non-current liabilities		26'145	27'779
Total liabilities		**193'008**	157'982
Share capital	14	28'560	28'560
Additional paid-in capital		55'244	60'284
Retained earnings	15	92'810	88'412
Total shareholders' equity, shareholders of the company		**176'614**	177'256
Minority shareholders		30	39
Total shareholders' equity		**176'644**	177'295
Total liabilities and shareholders' equity		**369'652**	335'277

The enclosed notes are part of the consolidated financial statements.

Consolidated cash flow statement

CHF 1'000		2018 01.01. – 31.12.	2017 01.01. - 31.12.
Net income		8'404	12'108
Depreciation of tangible fixed assets		11'069	10'845
Change in non-current provisions		-289	-366
Other non-cash items		211	-31
Change in:			
‣ Receivables from goods and services		-1'925	-27'073
‣ Inventories		-22'413	16'146
‣ Other receivables and deferred expenses		-1'115	818
‣ Payables from goods and services		3'360	-5'043
‣ Other liabilities, accrued expenses and deferred income		29'571	5'680
Cash flow from operating activities, net		**26'873**	13'084
Capital expenditure for:			
‣ Tangible fixed assets		-5'107	-8'614
‣ Intangible assets		-2'234	-3'058
Disposals of fixed assets		194	2'468
Cash flow from investing activities, net		**-7'147**	-9'204
Change in current financial liabilitites		7'360	-2'207
Repayment of non-current financial liabilities		-662	-354
Dividend payment		-5'094	-3'450
Purchase of interest in subsidiary	23	-	-424
Cash flow from financing activities, net		**1'604**	-6'435
Currency translation		-560	-401
Net change in cash and cash equivalents		20'770	-2'956
Cash and cash equivalents at beginning of period		11'072	14'028
Cash and cash equivalents at end of period		**31'842**	11'072

The enclosed notes are part of the consolidated financial statements.

Consolidated statement of shareholders' equity

CHF 1'000		Share capital	Additional paid-in capital	Retained earnings	Shareholders' equity, shareholders of the company	Minority shareholders	Total share-holders' equity
01.01.2017		**28'560**	**63'644**	**68'548**	**160'752**	**827**	**161'579**
Restatement Cash flow hedges	24	-	-	1'603	1'603	-	1'603
01.01.2017		**28'560**	**63'644**	**70'151**	**162'355**	**827**	**163'182**
Net income		-	-	12'023	12'023	85	12'108
Currency translation		-	-	5'823	5'823	56	5'879
Purchase of interest in subsidiary	23	-	-	415	415	-839	-424
Dividend payment		-	-3'360	-	-3'360	-90	-3'450
31.12.2017		**28'560**	**60'284**	**88'412**	**177'256**	**39**	**177'295**
Net income		-	-	8'359	8'359	45	8'404
Currency translation		-	-	-3'961	-3'961	-	-3'961
Purchase of interest in subsidiary		-	-	-	-	-	-
Dividend payment		-	-5'040	-	-5'040	-54	-5'094
31.12.2018		**28'560**	**55'244**	**92'810**	**176'614**	**30**	**176'644**

The enclosed notes are part of the consolidated financial statements.

Starrag Group

High-precision machine tools for greater productivity

Starrag Group is a global technology leader in manufacturing high-precision machining tools for milling, turning, boring and grinding workpieces of metallic, composite and ceramic materials. Principle customers are internationally active companies in the Aerospace, Energy, Transportation and Industrial (Industrial Components, Luxury Goods, Med Tech) sectors. In addition to its portfolio of machine tools, Starrag Group provides integrated technology and maintenance services that significantly enhance customer quality and productivity.

The umbrella brand Starrag unites the product ranges Berthiez, Bumotec, Dörries, Droop+Rein, Ecospeed, Heckert, Scharmann, SIP, Starrag, TTL and WMW. Headquartered in Rorschach/Switzerland. Starrag Group operates manufacturing plants in Switzerland, Germany, France, the UK and India and has established a network of sales and services subsidiaries in the most important customer countries.

The shares of Starrag Group Holding AG are listed on the SIX Swiss Exchange.

As per 31 December and as per end of previous year, Starrag Group Holding AG held the following fully consolidated investments directly and indirectly (capital share 100%):

- Starrag Group Holding GmbH, Chemnitz, Germany
- Starrag Group Holdings Ltd., Birmingham, UK
- Starrag AG, Rorschacherberg, Switzerland
- Starrag GmbH, Chemnitz, Germany
- Starrag SAS, Saint-Etienne, France
- Starrag Service Center GmbH & Co. KG, Ichtershausen, Germany (Capital share 80%)
- Starrag Technology GmbH, Mönchengladbach, Germany
- Starrag Vuadens SA, Vuadens, Switzerland
- Toolroom Technology Limited, Haddenham, UK (Capital share 100%, until 11.05.2017 85%)
- Starrag (Shanghai) Co. Ltd., Shanghai, China
- Starrag India Private Limited, Bangalore, India
- Starrag Italia Srl, Rivoli, Italy
- Starrag RU Ltd., Moskau, Russia
- Starrag UK Limited, Birmingham, UK
- Starrag USA Inc., Hebron USA

Capital management

The managed capital is equal to the net equity stated in the consolidated balance sheet. Main targets of the capital management are to ensure the necessary financial flexibility and to optimize the capital structure for reducing capital costs in order to create additional value for shareholders and other stakeholders.

The equity base is periodically reviewed and adjusted as appropriate, taking into consideration economic conditions and loan agreements (compare note 11). Resolutions on the distribution of profit and thus the dividend payment must be put to the vote at the annual general meeting of shareholders.

Business performance is measured using internal statements of operating results. Operating results can then be classified and analyzed in various ways. Primary performance figure is earnings before interest and taxes (EBIT). Additionally, a balanced set of key figures is reported periodically, which gives consideration to the contradictory liquidity, growth and profitability.

Segment information

Internal reporting to the Board of Directors is accord to the existing organisation structure. Aerospace & Energy is responsible for the market segments Aero Engines, Aero Structures, Oil & Gas, Power Turbines and Renewables. Transportation & Industrial Components is responsible for the market segments Heavy Duty Vehicles & Engines, Industrial Components and On-Road Vehicles. Precision Engineering is responsible for the market segments Avionics, Luxury Goods and Med Tech. An essential part of the employees is working in the various locations and regions performs central tasks on behalf of all Business Units and brands.

The operating activities of these Business Units have comparable economic characteristics and exhibit a similar long-term financial performance.

All Business Units manufacture machine tools and offer related services. Production at all company locations is made-to-order. Our customers are manufacturing companies that use our products to make capital goods for their customers. Product sales and marketing at all company locations is preferably conducted directly by the regional sales and marketing organizations and the technical sales officers for the respective factories. All Business Units will also engage the services of independent sales representatives as required to ensure more effective global coverage.

The Starrag Group thus has one reportable segment machine tools; segment data corresponds to the data in the consolidated financial statements.

Risk management

As a leading global manufacturer of precision machine tools, the Starrag Group is faced with various risks.

The most significant risks include:

- The weakening of the economic environment in customer markets and also of business cycles could lead to a reduction in demand;
- Misjudgements of developments in customer markets or in the competitive environment could lead to missed business opportunities or losses;
- Failure in research and development and other innovation-based activities could prevent business potential from being realised,
- A lack of availability of financial resources could have an impact on the performance and operations of the Starrag Group and

- Natural occurrences (such as fires) can have an influence on operating activities. The Board of Directors and management give high priority to the careful handling of strategic, financial and operational risks. The Starrag Group has a holistic risk management process which is analysed every year by management and the Board of Directors, with the following aims being pursued:
- Systematically identifying special risks,
- Establishing processes to monitor, reduce and ideally to prevent risks and
- Finding the right balance between risks and opportunities.

The Board of Directors and management give high priority to the careful handling of strategic, financial and operational risks. The Starrag Group has a holistic risk management process which is reviewed every year by management and the Board of Directors, with the following aims being pursued:

- Systematically identifying special risks,
- Establishing processes to monitor, reduce and ideally to prevent risks and
- Finding the right balance between risks and opportunities.

The risk management system is based on a classic risk matrix involving the probability of occurrence and possible extent of damage (identification and classification) and includes internal guidance as well as a risk log, in which operational data as well as action planning for risk management are documented.

The Executive Board appointed a risk management representative for the moderation and implementation of the risk management, which reports directly to the CFO.

In the annual risk review there is a diligent identification, assessment, analysis and evaluation of risks and appropriate measures are defined to reduce the risks. This information is documented in a group wide risk matrix. The implementation of the measures is monitored by the risk management representative. In business processes with recurring risks the measures are integrated as process steps in the operative processes of the daily business.

On an annual basis, the Executive Board reports nature, extent and assessment of significant risks and the measures taken for risk minimization to the Board of Directors. Risks in accounting and financial reporting are monitored and reduced by an adequate internal control system.

Financial risk management

The main risks occurring from the group's financial instruments consist of credit risk, counterparty risk, foreign currency risk, interest rate risk and liquidity risk.

Credit risk

The credit risk is limited by the number and the geographical spread of customers' receivables. In addition, it is limited by the adequate examination of the financial situation of customers before entering into a contract. Mostly, customers make advance payments upon order acknowledgement. If appropriate, shipment only follows upon advance payment or letter of credit. The outstanding receivables are constantly monitored.

Counterparty risk

The Starrag Group mainly holds its cash and cash equivalents as deposits or current account deposits with major creditworthy banks. Generally these deposits have durations of less than three months. Transactions with derivative financial instruments are only concluded with major creditworthy banks.

Foreign currency risk
The Starrag Group does not enter into business operations in foreign currencies which show an extraordinary high volatility. The foreign currency risk results mainly from sales and purchases in foreign currencies other than in the functional currency. If adequate, hedge instruments like forward exchange contracts and currency option contracts with major banks are applied to hedge business in foreign currencies. As well, probable future orders will be hedged in certain cases. Foreign currency risks occurring from the translation of income statement and balance sheet positions of foreign group companies are not hedged.

Interest rate risk
Interest rate risk results primarily from floating interest rates for bank loans. In some cases, these interest rates are fixed for short or long terms through loans with fixed interest rates.

Liquidity risk
Liquidity risk is limited by stipulated cash lines which cover the peak demand for working capital. It is continuously monitored through a liquidity status reports.

Management assumptions and estimates

Estimates and assumptions are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the prevailing circumstances. The resulting accounting estimates will naturally seldom comply with the actual outcome. Main sources of critical accounting estimates are:

Evaluation of net realizable values and profit shares of percentage of completion valued construction contracts
While preparing the accounts, the Group continuously examines the valuation of various balance sheet positions which are related with the regular machine tool business. In this connection assumptions have to be made regarding costs to complete and realizable market prices. Should situations occur which change previous assumptions regarding realizable income, costs to complete or percentage of completion, these assumptions will be adjusted. This may lead to adjustments of the affected balance sheet items and to the result. The carrying values of the potentially affected balance sheet items are disclosed in note 16 (construction contracts).

Provisions for warranty obligations and onerous contracts
While doing regular business, the Group may be involved in legal disputes. Provisions for pending disputes are estimated by evaluating the realistic cash outflow on the basis of existing information. The final outcome of such a dispute might require recognition of an adjustment in provisions in the income statement (see note 12).

Income tax
The evaluation of current tax liabilities is subject to the interpretation of tax laws in the respective countries. Its adequateness will be examined at the final evaluation and the audit by the tax authorities, mainly retrospectively for several business years. Thus, major adjustments in tax expenses may occur (see note 17).

Key accounting principles

Basis of presentation

The consolidated financial statements of the Starrag Group have been prepared in accordance with the Swiss GAAP FER accounting and reporting standards. In addition, the provisions of the Listing Rules of the SIX Swiss Exchange and Swiss accounting law were complied with. These consolidated financial statements are based on historical costs, with the exception of cash and cash equivalents and derivative financial instruments, which are valued at market value. The reporting is in Swiss francs (CHF). These financial statements include estimates and assumptions that affect the reported figures and related disclosures. Actual results may differ from these estimates.

Principles of consolidation

The scope of consolidation comprises the annual financial statements of Starrag Group Holding AG and all directly or indirectly controlled subsidiaries. Assets and liabilities as well as income and expenses are fully included in the consolidated financial statements using the full consolidation method. All intragroup relationships (income and expenses, receivables and liabilities) and intercompany profits on intragroup transactions and inventories are eliminated.

Capital consolidation is based on the purchase method, i.e. the acquisition costs of an acquired company are offset against the net assets measured at fair value at the time of acquisition. Any resulting goodwill is offset directly to the retained earnings in shareholders' equity. In the Notes to the financial statements, the effects of a theoretical capitalization and any impairment are shown using a depreciation period of five years. In the event of a possible subsequent sale, the goodwill offset against shareholders' equity at the time of the acquisition is recognized in profit or loss against the proceeds of the sale. The earnings of acquired companies are included in the consolidated accounts as of the acquisition date.

Currency translation

Foreign currency transactions are recorded at the exchange rate of the transaction date. Foreign currency receivables and liabilities at balance sheet date are translated using the exchange rate of that date. Resulting translation differences are recorded in the income statement. Not-monetary positions are not revaluated at balance sheet date. Assets and liabilities of foreign subsidiaries are translated to CHF using the exchange rates of balance sheet date. Average exchange rates are used for the translation of the income statements. Translation differences arising from the consolidation of financial statements are recorded directly in retained earnings.

Sales revenue and profit realisation

Sales revenue is recorded on transition of benefit and risk. Sales revenue from construction contracts at fixed prices are reported including a profit share depending on percentage of completion (percentage of completion method). Percentage of completion is defined by the direct contracts costs excluding material costs. In the balance sheet, the contract value after deduction of received payments is reported under receivables or accrued expenses and deferred income from percentage of completion valued construction contracts.

Research and development
Research costs are charged to the income statement when incurred. Development costs are merely capitalized to the extent that such an amount is covered by corresponding expected income. Capitalized developments are being reassessed yearly (impairment test). All other research and development costs are charged to the income statement when incurred.

Income tax
Income tax expense includes all income tax on the taxable profits of the group. For tax (esp. withholding tax) on future dividend payments on retained earnings, provisions are only set up if such dividend payments are probable. Provisions for deferred income tax are calculated by applying the liability method on the temporary differences between the carrying values and tax values of assets and liabilities. Tax relief on tax losses carried forward is only recognized to the extent that it is probable that sufficient future taxable profit will be available to be set off against the tax loss carry forward.

Cash and cash equivalents
Cash and cash equivalents include cash and bank balances as well as sight and deposit money with an original term of less than 3 months. These are valued at market value.

Receivables
Receivables are carried at their nominal value less impairment allowance. The impairment allowance is determined on the basis of due dates and recognizable credit risks. Receivables include receivables from percentage of completion valued construction contracts after deduction of received payments.

Inventories
Raw materials and trade goods are carried at average purchase costs, manufactured products at average manufacturing costs. Discounts are recognized as purchase cost reductions. If the realizable net value is lower, valuation adjustments are made accordingly. Manufacturing costs include the direct costs of materials used, labour and operating costs as well as an appropriate portion of related overhead costs. Obsolete and slow-moving items are adequately provided for. Inventories also include advance payments to suppliers.

Tangible fixed assets
Tangible fixed assets are carried at historical costs less appropriately accumulated depreciation. Depreciation is calculated using the straight line method for the estimated useful lives of: buildings 20 to 50 years, technical equipment and machines 4 to 12 years, IT hardware and communication 3 to 8 years. Land is not depreciated.

All gains and losses on disposals of tangible fixed assets are recognized in the income statement. Assets of low value are charged directly to operating expenses.

Intangible assets
Goodwill resulting from the acquisition of a company is offset against retained earnings in shareholders' equity at the time of an acquisition. In the notes to the financial statements, the effects of a theoretical capitalization and any impairment are shown using a depreciation period of five years.

Other intangible assets are carried at acquisition or production cost less accumulated depreciation required for business purposes. These intangible assets are amortized on a straight-line basis over their estimated useful lives, i.e. 3 to 8 years for software and 5 to 10 years for development costs.

Provisions

Provisions are made if a present obligation resulting from a past event exists, the use of resources for the settlement of such an obligation is probable and a reliable estimation of the amount of the obligation can be made. The amount of provisions depends on the expected use of funds needed to cover the obligation.

Employee benefits

The occupational pension situation for the Starrag Group companies' personnel is governed by the legal regulations and practices of the respective country and is accordingly structured differently.

The pension situation of the companies located in Switzerland is governed by the provisions of the Swiss Federal Law on Occupational Benefits. The Swiss pension fund of the Starrag Group is a foundation which is legally independent of the Starrag Group, and which has reinsured the pension plans (according to the law defined contribution plans) with an insurance company in a congruent manner. The plans are financed by employer and employee contributions, which are periodically determined in such a way that the insurance premiums due can be financed.

The German companies do not maintain any occupational pension plans. Staff is insured with the national pension insurance of Germany.

The economic obligations or benefits of Swiss pension plans are determined on the basis of the financial statements prepared in accordance with Swiss GAAP FER 26 «Accounting for Pension Funds» accounting standard. The economic impact of pension plans of foreign subsidiaries is using local valuation methods. Employer contribution reserves and comparable items are capitalized in accordance with Swiss GAAP FER 16.

Financial instruments

Financial assets include cash, cash equivalents and receivables. Financial liabilities mainly include financial debts and operating liabilities. These are valued according to the «effective interest method» at discounted costs. In addition to the effective interest payments, interest expenses also include the annual compound interest and pro-rata transaction costs.

In order to be able to react to short-term foreign exchange fluctuations, derivative currency hedge instruments can be held. Financial instruments held for trading are recognized at market value. Changes in market value are included in the financial result.

The hedge of future cash flows («Cash flow hedges»), whose underlying transactions have not yet been recognized in the balance sheet, are disclosed in the notes to the financial statements, if future cash flows will occur with high probability.

Segment information

1. Sales revenue by production site

CHF 1'000	2018	2017
Switzerland	124'902	117'793
Germany	219'984	244'687
Other countries	43'887	42'865
Total	**388'773**	405'345

Notes to the income statement

2. Other operating income

Other operating income include in particular compensation payments form insurance companies, income from subleases, gains on the sale of fixed assets and government grants.

3. Personnel expenses

	CHF 1'000	2018	2017
Wages and salaries		116'505	111'543
Pension benefit expenses	18	2'502	2'384
Other social benefit expenses		19'922	19'015
Restructuring charges		1'940	342
Other personnel expenses		5'189	5'848
Total personnel expenses		**146'058**	139'132

4. Other operating expenses

Other operating expenses include in particular travel expenses, sales expenses, administration expenses, vehicle and transport charges, expenses for premises, repair and maintenance of tangible fixed assets as well as other expenses.

5. Financial result

CHF 1'000	**2018**	2017
Interest income	154	183
Interest expenses	-581	-652
Currency result	-267	467
Other financial expenses	-1'527	-1'566
Total financial result	**-2'221**	-1'568

6. Per share information

Earnings per share are determined by dividing net income after income tax less share of minority shareholders by the weighted average number of issued shares (excluding treasury shares). In 2018, this number of shares was 3'360'000 (prior year 3'360'000). Based on the net result attributable to the shareholders of the company of CHF 8.4 million (prior year CHF 12.0 million) net earnings per share amount to CHF 2.49 (prior year CHF 3.58). As the company has not issued any stock options or convertible bonds, earnings per share were not diluted.

Notes to the balance sheet

7. Receivables from goods and services

CHF 1'000		**31.12.2018**	31.12.2017
Trade receivables from goods and services		34'985	31'849
Receivables from construction contracts	16	86'507	91'076
Total receivables		**121'492**	122'925
Thereof:			
‣ not due		111'080	113'159
‣ past due < 90 days		7'772	7'380
‣ past due ≥ 90 days		2'640	2'386

Receivables are stated net of value adjustments of CHF 1.6 million (prior year CHF 1.4 million).

8. Inventories

CHF 1'000	**31.12.2018**	31.12.2017
Raw materials and components	59'184	47'930
Work in progress	31'299	25'342
Finished products	6'176	6'578
Prepayments to suppliers	8'123	5'036
Total inventories	**104'782**	84'886

In 2018, expenses for the value adjustment of inventories of CHF 2.7 million (prior year CHF 2.7 million) were recognized.

9. Tangible fixed assets

	2018				2017			
CHF 1'000	Land and buildings	Machinery and equipment	Other tangible fixed assets	Total	Land and buildings	Machinery and equipment	Other tangible fixed assets	Total
Cost at beginning of year	119'519	55'033	12'738	187'290	115'408	49'799	12'278	177'485
Additions	1'703	2'875	823	5'401	3'961	4'413	428	8'802
Disposals	-140	-1'563	-411	-2'114	-3'321	-1'981	-655	-5'957
Currency translation	-2'167	-1'589	-373	-4'129	3'471	2'802	687	6'960
Cost at year end	**118'915**	**54'756**	**12'777**	**186'448**	**119'519**	**55'033**	**12'738**	**187'290**
Accumulated depreciation at beginning of year	32'936	39'911	10'267	83'114	28'954	35'571	9'178	73'703
Depreciation	3'546	3'492	1'265	8'303	3'565	3'798	1'155	8'518
Disposals	-138	-1'384	-411	-1'933	-895	-1'495	-647	-3'037
Currency translation	-753	-1'161	-337	-2'251	1'312	2'037	581	3'930
Accumulated depreciation at year end	**35'591**	**40'858**	**10'784**	**87'233**	**32'936**	**39'911**	**10'267**	**83'114**
Net carrying value at beginning of year	86'583	15'122	2'471	104'176	86'454	14'228	3'100	103'782
Net carrying value at year end	**83'324**	**13'898**	**1'993**	**99'215**	**86'583**	**15'122**	**2'471**	**104'176**

10. Intangible assets

	2018			2017		
CHF 1'000	Software	Development cost	Total	Software	Development cost	Total
Cost at beginning of year	11'940	14'866	26'806	11'457	13'822	25'279
Additions	1'306	928	2'234	1'153	1'905	3'058
Disposals	-188	-	-188	-1'245	-1'500	-2'745
Currency translation	-280	-333	-613	575	639	1'214
Cost at year end	**12'778**	**15'461**	**28'239**	**11'940**	**14'866**	**26'806**
Accumulated amortization at beginning of year	9'288	10'775	20'063	8'983	10'578	19'561
Depreciation	1'198	1'568	2'766	1'091	1'236	2'327
Disposals	-172	-	-172	-1'245	-1'500	-2'745
Currency translation	-229	-225	-454	459	461	920
Accumulated depreciation at year end	**10'085**	**12'118**	**22'203**	**9'288**	**10'775**	**20'063**
Net carrying value at beginnig of year	2'652	4'091	6'743	2'474	3'244	5'718
Net carrying value at year end	**2'693**	**3'343**	**6'036**	**2'652**	**4'091**	**6'743**

Goodwill resulting from the acquisition of a company is offset against retained earnings in shareholders' equity at the time of an acquisition. The effects of a theoretical capitalization and any impairment using a depreciation period of five years would be as follows:

CHF 1'000		**2018**	2017
Cost at beginning of year		30'357	28'285
Currency translation		-977	2'072
Cost at year end	15	**29'380**	30'357
Accumulated amortization at beginning of year		30'357	27'942
Amortization		-	343
Currency translation		-977	2'072
Accumulated amortization at year end		29'380	30'357
Theoretical net carrying value at beginning of year		-	343
Theoretical net carrying value at year end		-	-

CHF 1'000	**31.12.2018**	31.12.2017
Shareholders' equity	176'644	177'295
Theoretical net bock value	-	-
Theoretical shareholders' equity	**176'644**	177'295

CHF 1'000	**2018**	2017
Net income	8'404	12'108
Theoretical amortization	-	-343
Theoretical net income	**8'404**	11'765

11. Financial liabilities

CHF 1'000	**31.12.2018**	31.12.2017
Current financial liabilities	34'072	27'853
Non-current financial liabilities	3'094	3'882
Total financial liabilities	**37'166**	31'735
Thereof in:		
‣ EUR	37'166	17'154
‣ CHF	-	14'581
Average interest rate	0.9%	0.9%
Undrawn current cash credit line	69'913	79'564

Credit agreements contain partly financial covenants and other conditions under which banks are able to terminate financial liabilities which are recorded as non-current at short notice. These financial covenants are based on key figures, resulting from EBITDA, net equity and net debt. The financial covenants were complied with in 2018 and 2017.

12. Provisions

	2018				2017			
CHF 1'000	Deferred income taxes	Warranty	Other Provisions	Total	Deferred income taxes	Warranty	Other Provisions	Total
Carrying value at beginning of year	21'930	7'443	-	29'373	21'239	6'670	225	28'134
Addition	2'685	7'929	-	10'614	978	6'965	-	7'943
Utilization	-4'178	-7'310	-	-11'488	-637	-6'526	-225	-7'388
Release	-95	-144	-	-239	-	-115	-	-115
Currency translation	-387	-211	-	-598	350	449	-	799
Carrying value at year end	**19'955**	**7'707**	**-**	**27'662**	21'930	7'443	-	29'373
Thereof:								
‣ current	-	4'611	-	4'611	-	5'476	-	5'476
‣ non-current	19'955	3'096	-	23'051	21'930	1'967	-	23'897

13. Accrued expenses and deferred income

CHF 1'000		**31.12.2018**	31.12.2017
Accrued costs for customer orders		10'045	7'196
Liabilities from construction contracts	16	48'837	30'477
Personnel expenses		15'669	14'230
Commissions		227	393
Current income taxes		3'758	1'043
Other		6'685	5'476
Total accrued expenses and deferred income		**85'221**	58'815

14. Share capital

The share capital of CHF 28.6 million consists of 3'360'000 registered shares with a nominal value of CHF 8.50 each. At the Annual General Meeting on 28 April 2018, the Board of Directors was authorized to increase the share capital up to a maximum of CHF 5'695'000 by issuing a maximum of 670'000 fully paid-in registered shares with a nominal value of CHF 8.50 at any time until 28 April 2020.

15. Retained earnings

CHF 1'000		Currency translation	Cash flow hedges	Goodwill offset	Other reserves	Total
01.01.2017 (as stated)		-768	-1'603	-28'285	99'204	68'548
Restatement Cash flow hedges	24	-	1'603			1'603
01.01.2017		**-768**	**-**	**-28'285**	**99'204**	**70'151**
Net income		-	-	-	12'023	12'023
Currency translation		7'895	-	-2'072	-	5'823
Purchase of interest in subsidiary	23	-	-	-	415	415
31.12.2017		**7'127**	**-**	**-30'357**	**111'642**	**88'412**
Net income		-	-	-	8'359	8'359
Currency translation		-4'938	-	977	-	-3'961
31.12.2018		**2'189**	**-**	**-29'380**	**120'001**	**92'810**

As at 31 December 2018, non-distributable reserves amounted to CHF 5.7 million, unchanged from the previous year.

Other notes

16. Construction contracts

CHF 1'000	2018	2017
Revenue from construction contracts valued using the Percentage of completion method	297'643	314'174

CHF 1'000		31.12.2018	31.12.2017
Contract costs incurred and recognized profit share		311'528	280'938
Advance payments received		-273'858	-220'339
Net carrying value		**37'670**	**60'599**
Thereof:			
‣ Receivables from goods and services	7	86'507	91'076
‣ Accrued expenses and deferred income	13	-48'837	-30'477

17. Income tax expenses

CHF 1'000	2018	2017
Income before taxes	8'888	13'686
Expected tax rate	2.7%	22.5%
Expected income tax expenses	243	3'083
Debits/credits from prior reporting periods	-50	-208
Non-deductable expenses/non-taxable income	232	-159
Change in tax rate	438	-
Effect of unrecognized tax loss carry forwards	-379	-1'138
Income tax expenses	**484**	1'578
Thereof:		
‣ Current income tax expenses	-2'072	-1'881
‣ Deferred income tax expenses	1'588	303

The expected tax rate was 2.7% (prior year 22.5%) and corresponds to the weighted average tax rate resulting from the profit/loss before tax and the tax rate of each individual Group company. The change in the expected tax rate is the result of changes in the profitability and the tax rates at various Group companies.

On 31 December 2018 there are unrecognized tax loss carryforwards of CHF 9.9 million (prior year CHF 10.7 million), whereof CHF 1.0 million expire within one to three years (prior year CHF 0.5 million), CHF 2.1 million expire within four to seven years (prior year CHF 2.7 million) and CHF 0.0 million expire after more than seven years (prior year CHF 0.2 million). Deferred tax assets on tax loss carry-forward of CHF 3.1 million (prior year CHF 3.3 million) have not been recognized.

18. Pension benefits

CHF 1'000	2018 Patronage funds	2018 Employee benefit plans without surplus/deficit	2018 Employee benefit plans with surplus	2018 Total	2017 Patronage funds	2017 Employee benefit plans without surplus/deficit	2017 Employee benefit plans with surplus	2017 Total
Surplus/deficit pension benefit plan at end of year	1'179	-	5'971	**7'150**	1'300	-	6'119	7'419
Economic benefit at end of year	-	-	-	**-**	-	-	-	-
Change in economic benefit	-	-	-	**-**	-	-	-	-
Accrued contributions	-	336	2'166	**2'502**	-	291	2'093	2'384
Pension benefit expenses	-	336	2'166	**2'502**	-	291	2'093	2'384

There are no employer contribution reserves.

19. Pledged assets

CHF 1'000	**31.12.2018**	31.12.2017
To ensure financial debts in the amount of the following land and buildings are mortgaged:	3'104	3'495
‣ Net carrying value	6'589	7'352
‣ Charge	6'589	7'352

20. Derivative financial instruments

CHF 1'000	**31.12.2018**	31.12.2017
Forward currency exchange contracts: Contract value	**26'687**	63'669
Replacement value:		
‣ positive	158	4'475
‣ negative	-105	-526
Currency options: Contract value	**29'768**	-
Replacement value:		
‣ positive	66	-
‣ negative	-171	-

21. Operating lease liabilities

CHF 1'000	**31.12.2018**	31.12.2017
Due within 1 year	2'193	2'078
Due within 2 to 5 years	2'474	2'142
Total operating lease liabilities	**4'667**	4'220

The lease contracts are for premises, cars and IT equipment.

22. Other off-balance sheet obligations

The Starrag Group is occasionally confronted with claims for damages, which are to be regarded as a normal side effect of ordinary business activities. These mainly relate to warranties, property and financial damages as well as product liability. There are provisions and sureties for these obligations, which the Starrag Group assumes will cover all foreseeable risks.

23. Purchase of remaining shares in subsidiary

On 11 May 2017 Starrag Group Holding AG acquired an additional 15% stake in Toolroom Technology Limited at a cost of CHF 0.4 million. Starrag Group now owns 100% of Toolroom Technology's Limited's capital stock. At the time of acquisition the carrying amount of the corresponding minority shares was CHF 0.8 million. This amount was derecognized in the equity attributed to noncontrolling interests and the CHF 0.4 million difference to the acquisition cost was recognized in the retained earnings of the company.

24. Restatement of Cash flow hedges

From 2018, the hedge of future cash flows («Cash flow hedges»), whose underlying transactions have not yet been recognized balance sheet, are disclosed in the notes to the financial statements, if future cash flows will occur with high probability.
The 2017 values were adjusted accordingly. This change in the accounting policy reduces the complexity and leads simultaneously to a reduction in cost. The change in the accounting policy has caused the following adjustments in the previous year's shareholders' equity:

CHF 1'000	**01.01.2017**	31.12.2017
Shareholders' equity (as stated)	161'359	179'645
Prepaid expenses and accrued income	-456	-4'446
Accrued expenses and deferred income	2'653	866
Deferred income taxes	-594	1'230
Shareholders' equity (restated)	**162'962**	**177'295**

25. Exchange rates

CHF 1'000	**2018**	2017
Average rates (for income statement and cash flow statement)		
1 EUR	1.1677	1.1208
1 USD	0.9880	0.9953
1 GBP	1.3205	1.2794
1 CNY	0.1497	0.1471

CHF 1'000	**31.12.2018**	31.12.2017
Year end rates (for balance sheet)		
1 EUR	1.1373	1.1808
1 USD	0.9943	0.9883
1 GBP	1.2616	1.3298
1 CNY	0.1446	0.1517

26. Events after the balance sheet date

The consolidated financial statements were approved and released for publication by the Board of Directors on 28 February 2019. They are also subject to approval by the Annual General Meeting of the shareholders scheduled for 26 April 2019.

Report of the statutory auditor

pwc

Report of the statutory auditor

to the General Meeting of Starrag Group Holding AG

Rorschacherberg

Report on the audit of the consolidated financial statements

Opinion
We have audited the consolidated financial statements of Starrag Group Holding AG and its subsidiaries (the Group), which comprise the consolidated income statement for the year ended 31 December 2018, the consolidated balance sheet as at 31 December 2018, the consolidated cash flow statement and consolidated statement of changes in equity for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the consolidated financial statements (pages 95 bis 117) give a true and fair view of the consolidated financial position of the Group as at 31 December 2018 and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with Swiss GAAP FER and comply with Swiss law.

Basis for opinion
We conducted our audit in accordance with Swiss law and Swiss Auditing Standards. Our responsibilities under those provisions and standards are further described in the "Auditor's responsibilities for the audit of the consolidated financial statements" section of our report.

We are independent of the Group in accordance with the provisions of Swiss law and the requirements of the Swiss audit profession and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Our audit approach

Overview

Overall Group materiality: CHF 1'940'000

We concluded full scope audit work at six reporting units in two countries. Our audit scope addressed over 83% of the Group's revenue.

As key audit matter the following area of focus has been identified:

Accounting construction contracts

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Materiality

The scope of our audit was influenced by our application of materiality. Our audit opinion aims to provide reasonable assurance that the consolidated financial statements are free from material misstatement. Misstatements may arise due to fraud or error. They are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the consolidated financial statements.

Based on our professional judgement, we determined certain quantitative thresholds for materiality, including the overall Group materiality for the consolidated financial statements as a whole as set out in the table below. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures and to evaluate the effect of misstatements, both individually and in aggregate, on the consolidated financial statements as a whole.

Overall Group materiality	CHF 1'940'000
How we determined it	0.5% of sales revenue
Rationale for the materiality benchmark applied	We chose sales revenue as the benchmark for determining materiality. This benchmark takes into account the volatility of the business environ-ment and it is a generally accepted benchmark for materiality considerations.

We agreed with the Board of Directors that we would report to them misstatements above CHF 194'000 identified during our audit as well as any misstatements below that amount which, in our view, warranted reporting for qualitative reasons.

Audit scope

We tailored the scope of our audit in order to perform sufficient work to enable us to provide an opinion on the consolidated financial statements as a whole, taking into account the structure of the Group, the accounting processes and controls, and the industry in which the Group operates.

The audit strategy for the audit of the consolidated financial statements was determined taking into account the work performed by the component auditors in the PwC network. As Group auditor, we performed the audit of the consolidation and the disclosures and the presentation of the consolidated financial statements. Where audits were performed by component auditors, we ensured that, as Group auditor, we were adequately involved in the audit in order to assess whether sufficient appropriate audit evidence was obtained from the work of the component auditors to provide a basis for our opinion. Our involvement comprised the inspection of the reporting, taking part in telephone calls with the component auditors during the interim audit and the year-end audit, communicating the risks identified at Group level, specifying the audit procedures relating to the recognition and measurement of term construction contracts and specifying the materiality levels to be applied.

Report on key audit matters based on the circular 1/2015 of the Federal Audit Oversight Authority

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

pwc

Accounting construction contracts

Key audit matter	*How our audit addressed the key audit matter*
Starrag Group has construction contracts, which it recognises and measures using the percentage-of-completion (PoC) method in accordance with Swiss GAAP FER 22 – Long-term contracts. The degree of completion is determined on the basis of the direct contract costs excluding costs of materials. Management has to estimate the progress of projects as of the balance sheet date and the costs to be incurred in the future until their completion. An incorrect estimate could have a significant impact on the result for the period. Please refer to page 102 (Management assumptions and estimates), page 103 (Key accounting principles – Sales revenue and profit realisation) and page 113 (Other notes – Percentage-of-completion-valued construction contracts) in the notes to the consolidated financial statements.	Our audit procedures regarding the recognition and measurement of construction contracts using the per-centage-of-completion (PoC) method comprised in particular the following: • We assessed the design and the existence of the key controls regarding the production orders and tested the effectiveness of selected controls. • We selected various production orders (sample testing based on the contract volumes, the contribution margin and changes in the margin compared with the planning phase) and focussed our testing on the following, in particular: - We assessed the contract related calculations to determine whether the contractual terms – including sale proceeds and penalties for non-performance – had been recorded appropriately. - We discussed with the project controllers and project managers the progress of the projects based on the latest project accounts, the costs still to be incurred until their completion and changes in the margin. - We obtained written information from the legal representatives of the Group. We inspected this written information with regard to indications of potential quality deficiencies or penalties for non-performance and assessed whether these matters were presented appropriately in the consolidated financial statements. • During the audit, we conducted on-site inspections of various machines still under construction and assessed the progress of the projects. • For the production orders completed during the year under review, we compared various final parameters with the estimates made in the planning phase or those as of the previous balance sheet date in order to assess, with hindsight, the accuracy of the estimates made by Management. • We checked the arithmetical correctness of the key assessments relating to the progress of projects, costs to be incurred in the future and sales revenue. • We checked whether the disclosures in the con-solidated financial statements were made in accordance with Swiss GAAP FER 22 – Long-term contracts. The results of our audit support the recognition and measurement of construction contracts and their disclosure in the 2018 consolidated financial statements.

Responsibilities of the Board of Directors for the consolidated financial statements
The Board of Directors is responsible for the preparation of the consolidated financial statements that give a true and fair view in accordance with Swiss GAAP FER and the provisions of Swiss law, and for such internal control as the Board of Directors determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the Board of Directors is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Directors either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Auditor's responsibilities for the audit of the consolidated financial statements
Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Swiss law and Swiss Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

A further description of our responsibilities for the audit of the consolidated financial statements is located at the website of EXPERTsuisse: http://expertsuisse.ch/en/audit-report-for-public-companies. This description forms part of our auditor's report.

Report on other legal and regulatory requirements

In accordance with article 728a paragraph 1 item 3 CO and Swiss Auditing Standard 890, we confirm that an internal control system exists which has been designed for the preparation of consolidated financial statements according to the instructions of the Board of Directors.

We recommend that the consolidated financial statements submitted to you be approved.

PricewaterhouseCoopers AG

Beat Inauen	Oliver Illa
Audit expert Auditor in charge	Audit expert

St. Gallen, 28 February 2019

Income statement

CHF 1'000	**2018**	2017
Other operating income:		
‣ Income from investments	8	19
Financial income	4'679	7'648
Total revenue	**4'687**	7'667
Personnel expenses	-555	-665
Other operating expenses	-751	-619
Depreciation and value adjustments of fixed assets	-431	-431
Financial expenses	-909	-94
Income tax expenses	-6	-6
Net income	**2'035**	5'852

Balance sheet

CHF 1'000		31.12.2018	31.12.2017
Cash and cash equivalents		7	8
Other receivables:			
‣ from group companies		4'106	4'805
‣ from third parties		5	-
Prepaid expenses		15	25
Total current assets		**4'133**	4'838
Financial assets:			
‣ Loans to group companies		52'649	54'453
Investments	7	123'517	123'517
Total fixed assets		**176'166**	177'970
Total assets		**180'299**	182'808

CHF 1'000		31.12.2018	31.12.2017
Other liabilities:			
‣ to group companies		2'034	600
‣ to third parties		23	73
Accrued expenses and deferred income		547	1'435
Total current liabilities		**2'604**	2'108
Total liabilities		**2'604**	2'108
Share capital	8	28'560	28'560
Legal capital reserves:			
‣ Capital contribution reserves	12	54'481	59'521
‣ Other legal capital reserves		1'222	1'222
Retained earnings		91'397	85'545
Net income		2'035	5'852
Total shareholders' equity		**177'695**	180'700
Total liabilities and shareholders' equity		**180'299**	182'808

Notes to the financial statements

Key accounting principles

1. Basis of presentation

The financial statements of Starrag Group Holding AG, Rorschacherberg were prepared in accordance with the provisions of the Swiss Law on Commercial Accounting defined by the Swiss Code of Obligations.

The company prepares consolidated financial statements in accordance with the Swiss GAAP FER accounting standards. Correspondingly, the company does not prepare any additional notes to the financial statements or a cash flow statement. The following are explanations of how material balance sheet positions are stated on the balance sheet.

2. Other receivables and liabilities

Other short-term receivables and liabilities are carried at their nominal value. Maturity structures and recognisable credit risks are taken into account when creating specific impairment allowances on other short-term receivables. For the remainder, general impairment allowances are created at the discretion of the Board of Directors as permitted by tax legislation.

3. Financial assets

The financial assets include long-term loans to Group companies. Loans granted in foreign currency are valued at the current year-end exchange rate, whereby unrealised losses are recognized but unrealised gains are not recognized.

4. Investments

Shareholdings are reported in the balance sheet at the cost of acquisition less appropriate valuation adjustments for impairments that are anticipated to be permanent.

5. Currency translation

Transactions in foreign currencies are translated into Swiss francs at the exchange rate valid at the time of the transaction. Pursuant to the imparity principle, assets and liabilities plus shareholders' equity in foreign currencies are translated into Swiss francs at the year-end rate.

Supplemental information and explanations to the annual report

6. Full-time employees

The company does not have any employees.

7. Investments

On 31 December and as per the end of the prior year, the company held the following direct or material indirect participating interests with an equity share and percentage of voting rights of 100 % each (unless otherwise indicated):

- Starrag Group Holding GmbH, Chemnitz, Germany
- Starrag Group Holdings Ltd., Birmingham, UK
- Starrag SAS, Saint-Etienne, France
- Starrag Service Center GmbH & Co. KG, Ichtershausen, Germany (Capital share 80%)
- Starrag Technology GmbH, Mönchengladbach, Germany
- Starrag Vuadens SA, Vuadens, Switzerland
- Starrag GmbH, Chemnitz, Germany
- Starrag AG, Rorschacherberg, Switzerland
- Toolroom Technology Limited, Haddenham, UK (Capital share until 11.05.2017 85%, from 11.05.2017 100%)
- Starrag (Shanghai) Co. Ltd., Shanghai, China
- Starrag India Private Limited, Bangalore, India
- Starrag Italia Srl, Rivoli, Italy
- Starrag RU Ltd., Moskau, Russia
- Starrag UK Limited, Birmingham, UK
- Starrag USA Inc., Hebron USA

8. Share capital and authorised share capital

The share capital of CHF 28.6 million consists of 3'360'000 registered shares with the nominal value of CHF 8.50 each. At the Annual General Meeting on 28 April 2018, the Board of Directors was authorized to increase the share capital up to a maximum of CHF 5'695'000 by issuing a maximum of 670'000 fully paid-in registered shares with a nominal value of CHF 8.50 at any time until 28 April 2020.

9. Major shareholders

The following major shareholders hold more than three per cent of the voting rights:

	31.12.2018	31.12.2017
Walter Fust, Freienbach, Switzerland	55.20%	53.94%
Eduard Stürm AG, Goldach, Switzerland	9.26%	9.26%
Max Rössler, Hergiswil / Parmino Holding AG, Goldach, Switzerland	7.98%	7.98%

10. Compensations

Compensations to the Board of Directors and to the Executive Board are disclosed in the compensation report from page 80 of the annual report.

11. Participations of the Board of Directors and Executive Board

Number of shares	31.12.2018	31.12.2017
Prof. Dr. Christian Belz, Member of the Board of Directors	2'800	2'800
Daniel Frutig, Chairman	3'040	2'240
Walter Fust, Member of the Board of Directors	1'854'703	1'812'282
Adrian Stürm, Member of the Board of Directors	27'150	27'150
Gerold Brütsch, CFO	400	400
Günther Eller, Head Customer Service	200	200

12. Capital contribution reserves

The reported legal capital contribution reserves at 31 December 2018 amounted to CHF 54.5 million (prior year CHF 59.5 million), of which CHF 51.3 million (prior year CHF 56.3 million) were recognized by the Swiss Federal Tax Administration within the meaning of Article 20 (3) of the Federal Income Tax Act and Article 5 (1) of the Federal Withholding Tax Act.

13. Securities for the benefit of Group companies

The total amount of securities furnished for third-party liabilities amounts to CHF 321.7 million (prior year CHF 321.2 million).

14. Contingent liabilities

The company is part of the VAT group of Starrag AG and thus jointly liable for VAT debts of the whole group to the Swiss Federal Tax Administration.

Appropriation of Retained Earnings

Proposal of the Board of Directors for the appropriation of retained earnings

CHF 1'000	2018	2017
Retained earnings	91'397	85'545
Net income	2'035	5'852
Retained earnings	**93'432**	91'397
To be carried forward	**93'432**	91'397

Proposal of the Board of Directors for the appropriation of legal capital contribution reserves

CHF 1'000		2018	2017
Available capital contribution reserves	12	**54'481**	59'521
Withholding tax free distribution		-3'360	-5'040
To be carried forward		**51'121**	54'481

At the General Meeting on 26 April 2019, the Board of Directors will propose the distribution of a dividend of CHF 1.00 per share from the capital contribution reserves (total dividend CHF 3.4 million). In addition, the Board of Directors will propose that the retained earnings of CHF 93.4 million will be carried forward.

According to the resolution of the Annual General Meeting held on 28 April 2018, a distribution of a dividend of CHF 1.50 per share (total dividend CHF 5.0 million) was carried out. In addition, the Annual General Meeting decided that the retained earnings of CHF 91.4 million was carried forward.

Report of the statutory auditor

Report of the statutory auditor

to the General Meeting of Starrag Group Holding AG

Rorschacherberg

Report on the audit of the financial statements

Opinion

We have audited the financial statements of Starrag Group Holding AG, which comprise the income statement for the year ended 31 December 2018, the balance sheet as at 31 December 2018, income statement and notes for the year then ended, including a summary of significant accounting policies.

In our opinion, the financial statements (pages 122 to 127) as at 31 December 2018 comply with Swiss law and the company's articles of incorporation.

Basis for opinion

We conducted our audit in accordance with Swiss law and Swiss Auditing Standards. Our responsibilities under those provisions and standards are further described in the "Auditor's responsibilities for the audit of the financial statements" section of our report.

We are independent of the entity in accordance with the provisions of Swiss law and the requirements of the Swiss audit profession and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Our audit approach

Overview

Overall materiality: CHF 900'000

We tailored the scope of our audit in order to perform sufficient work to enable us to provide an opinion on the financial statements as a whole, taking into account the structure of the entity, the accounting processes and controls, and the industry in which the entity operates.

As key audit matter the following area of focus has been identified:

Impairment testing of investments in subsidiaries

Materiality

The scope of our audit was influenced by our application of materiality. Our audit opinion aims to provide reasonable assurance that the financial statements are free from material misstatement. Misstatements may arise due to fraud or

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error. They are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

Based on our professional judgement, we determined certain quantitative thresholds for materiality, including the overall materiality for the financial statements as a whole as set out in the table below. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures and to evaluate the effect of misstatements, both individually and in aggregate, on the financial statements as a whole.

Overall materiality	CHF 900'000
How we determined it	0.5% of total assets
Rationale for the materiality benchmark applied	We chose total assets as the benchmark because, in our view, it is a relevant bechmark for holding company, and it is a generally accepted benchmark for holding companies.

We agreed with the Board of Directors that we would report to them misstatements above CHF 90'000 identified during our audit as well as any misstatements below that amount which, in our view, warranted reporting for qualitative reasons.

Audit scope

We designed our audit by determining materiality and assessing the risks of material misstatement in the financial statements. In particular, we considered where subjective judgements were made; for example, in respect of significant accounting estimates that involved making assumptions and considering future events that are inherently uncertain. As in all of our audits, we also addressed the risk of management override of internal controls, including among other matters consideration of whether there was evidence of bias that represented a risk of material misstatement due to fraud.

Report on key audit matters based on the circular 1/2015 of the Federal Audit Oversight Authority

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the financial statements of the current period. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Impairment testing of investments in subsidiaries

Key audit matter	*How our audit addressed the key audit matter*
Investments in subsidiaries is a significant asset category on the balance sheet (CHF 123.5 million). Impairment testing of investments whose book value is greater than the book value of the underlying net assets requires Management to consider capitalised earnings. Doing so involves significant scope for judgement, particularly to determine the assumptions to use concerning future business results. In identifying the potential need for impairment of investments in subsidiaries, Management uses a predefined impairment testing process. Please refer to page 124 and 125 (Investments) of the notes to the financial statements.	In our audit of investments in subsidiaries, we performed the following main audit procedures: • We compared the book value of the investments in the year under review with their pro-rata share of the respective company's equity or the company's valuation, based on capitalised earnings. • We checked for plausibility the key assumptions applied by Management (revenue, margin growth and discount rate). We consider the valuation process and the assumptions used to be an appropriate and adequate basis for the impairment testing of the goodwill as at 31 December 2018.

Responsibilities of the Board of Directors for the financial statements
The Board of Directors is responsible for the preparation of the financial statements in accordance with the provisions of Swiss law and the company's articles of incorporation, and for such internal control as the Board of Directors determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors is responsible for assessing the entity's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Board of Directors either intends to liquidate the entity or to cease operations, or has no realistic alternative but to do so.

Auditor's responsibilities for the audit of the financial statements
Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Swiss law and Swiss Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

A further description of our responsibilities for the audit of the financial statements is located at the website of EXPERTsuisse: http://expertsuisse.ch/en/audit-report-for-public-companies. This description forms part of our auditor's report.

Report on other legal and regulatory requirements

In accordance with article 728a paragraph 1 item 3 CO and Swiss Auditing Standard 890, we confirm that an internal control system exists which has been designed for the preparation of financial statements according to the instructions of the Board of Directors.

We further confirm that the proposed appropriation of reserves complies with Swiss law and the company's articles of incorporation. We recommend that the financial statements submitted to you be approved.

PricewaterhouseCoopers AG

Beat Inauen	Oliver Illa
Audit expert Auditor in charge	Audit expert

St. Gallen, 28 February 2019

Five-year overview

CHF 1'000	**2018**	2017	2016	2015	2014
		FER		IFRS [1]	
Order intake	461.0	349.3	480.3	333.4	407.3
Order backlog at year end	365.9	301.7	348.3	237.8	287.6
Sales revenue	388.8	405.3	371.6	363.7	393.2
Operating result before deprecation and amortization EBITDA	22.2	26.1	19.8	27.1	33.2
Operating result EBIT	11.1	15.3	9.3	14.7	19.1
Net income	8.4	12.1	6.1	9.5	14.4
EBITDA as % of sales revenue	5.7%	6.4%	5.3%	7.4%	8.4%
EBIT as % of sales revenue	2.9%	3.8%	2.5%	4.0%	4.9%
Cash flow from operating activities	26.9	13.1	21.2	11.0	7.3
Capital expenditure in non-current assets	7.3	11.7	19.4	22.3	14.6
Free cash flow	19.7	3.9	1.8	-11.3	-7.2
Employees (full-time equivalents, annual average)	1'516	1'503	1'524	1'573	1'622
Total assets	369.7	335.3	316.3	341.5	356.3
Capital employed	205.0	221.9	202.8	n/a	n/a
Return on capital employed ROCE	3.8%	5.7%	3.5%	n/a	n/a
Net debt	5.3	20.7	18.7	15.9	-2.4
Shareholders' equity	176.6	177.3	161.4	186.1	195.9
Equity ratio	47.8%	52.9%	51.0%	54.5%	55.0%
Return on equity ROE	4.7%	7.5%	3.8%	4.9%	7.5%
Earnings per share (in CHF)	2.49	3.58	1.77	2.78	4.26
Share price at year end (in CHF)	43.00	65.35	52.50	46.00	64.50
Profit distribution per share (in CHF)	1.00 [2]	1.50	1.00	1.80	1.80
Total shareholder return TSR	-31.9%	26.4%	16.7%	-25.9%	-12.5%

[1] Since 2017, the financial statements of Starrag Group have been prepared in accordance with the Swiss GAAP FER accounting standards. The 2016 figures have been adjusted accordingly. The key figures for the years 2014 to 2015 were prepared in accordance with International Financial Reporting Standards (IFRS) and some of them are only comparable to a limited extent.

[2] Proposal of the Board of Directors to the Annual General Meeting in the form of a distribution of capital contribution reserves free of withholding tax.

Financial calendar

26 April 2019	Annual General Meeting in Rorschach
24 July 2019	Half-year report 2019
24 January 2020	Sales and orders 2019
6 March 2020	Annual report 2019, Analysts and Media conference in Zurich
25 April 2020	Annual General Meeting in Rorschach

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This annual report is also available in German. In case of any discrepancy between the two versions, the German text shall prevail. The annual report may also be viewed online on our website: www.starrag.com

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