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Passion
Innovation
Tradition



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S+C at the THERMPROCESS and
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DEAR READERS

The financial year 2018 was initially marked by a continued recovery in demand. This was accompanied by a rising nickel price. Since mid-2018, however, nickel has clearly lost value again.

The world political situation is still difficult. In Europe, the Euro crisis is far from over, and the war in Syria and the tense situation in the Middle East are just examples. The problems are intensified by a sparked trade war with sanctions by which S+C is sometimes hit. The framework conditions in Germany also confront us with major challenges. High taxes and levies, the apportionment of renewable energies and the high level of wage costs make it necessary, among other things, for us to relocate labour-intensive work abroad more and more.

In order to counteract the high cost burden, a „**FUTURE CONTRACT**“ was signed with the works council at the Lindlar site and the trade union IG Metall. We have to survive in international competition and adjust our cost structure accordingly. However, we can only keep our clear commitment to our German headquarters if the framework conditions are right. At the beginning of February 2018, the S+C collective agreement had hit hard, as it meant an additional annual burden of more than 4 percent for the next two years. The contract that is now negotiated is valid until 2024 and also represents a clear approval of the company's strategy. In addition to sustainable cost savings and a fair, motivating pay structure in the industrial sector, fixed rules for investments in the location have now been agreed.



Jan Schmidt-Krayer
Managing Partner

+
I would like to thank our worldwide employees. They are our capital!

As part of our „**Ambition 2020**“ strategy, we have launched numerous projects to secure the future of the S+C Group in the long term. Healthy growth and a guaranteed return on sales are in the foreground here.

We look to the fiscal year 2019 with mixed feelings. Although the market revival ensured a good order backlog, the general conditions described above remain present. Likewise, in my opinion, the next world economic crisis is on the doorstep, which will cause further uncertainties.

My thanks go to our shareholders, our advisory board and above all our customers, for the trust placed in us. I would also like to thank our worldwide employees. **They are our capital!** Only with highly motivated and qualified employees can we prove our efficiency again and again!

Good luck!

Jan Schmidt-Krayer
Managing Partner



FOREWORD

Fortunately, the S+C Group was again able to close the 2018 financial year with a satisfactorily positive balance sheet, despite difficult political and economic conditions and constraints.

All plants - except Schmidt + Clemens Asia - worked profitably. The headquarters in Lindlar-Kaiserau made a special mark by once again succeeding in achieving a positive result. As expected, the service area opened up new perspectives: A major order in the Middle East was booked.

Taking into account the lower margins and lower capacity utilisation of the works compared to 2017, as a result of the global sanctions policy, especially in Spain, the achievements can be rated as considerable. They were achieved through consistent implementation of the existing strategic goals as well as through the improvement of process and production processes, cost savings, quality improvement and far-sighted personnel policy.

Special attention will continue to be paid to our strategic direction. For example, in close cooperation with international executives, management has begun implementing the „**Ambition 2020**“ strategy.



Lutz Werner
*Chairman of
the Advisory Board*

+
We're closing
the 2018 financial year
again with a
satisfactorily positive
balance sheet.

The declared goal of this strategy is to defend and expand our leading position, especially in the petrochemical industry. The core business is to be strengthened by better market penetration, product differentiation and expansion of existing markets. By the year 2020, an annual turnover in the Group of 300 million Euro and a return of 6.5 percent is to be achieved. This is an ambitious requirement to be achieved only by increasing **sales activity** and appropriate **innovation** and **communication culture** in the corporate Group. The necessary improvements and investments in the production process, the establishment of uniform manufacturing standards and transparent cost structures require a continuous personnel development of the specialists and executives, as is currently practised at S+C. For 2019, a cautious improvement is assumed compared to 2018.

The advisory board first thanks the employees of S+C for the good work they have done, and in addition, the management for constructive cooperation, the business partners for the trust placed in S+C and the shareholders for their valuable support.

Best regards

Lutz Werner
Chairman of the Advisory Board



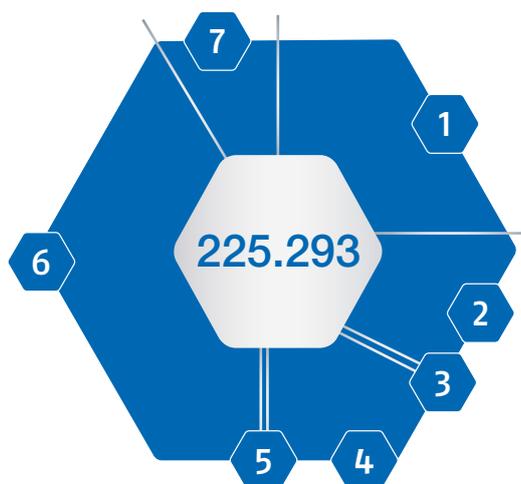
CONSOLIDATED FINANCIAL STATEMENT

CONSOLIDATED FINANCIAL STATEMENTS COMPACT IN T EURO

ASSETS	176.684	176.684	LIABILITIES
Fixed Assets	71.322	93.020	Capital Resources
Inventories	44.096	21.982	Provisions
Accounts Receivable	53.222	34.297	Liabilities due to Banks
Cash in hand and back	6.674	26.704	Accounts Payable
Other Assets	1.370	681	Other liabilities

REVENUES BY REGION 31/12/2018 IN %

2018		
1	22,1	Germany
2	14,9	Other EU-Countries
3	3,0	Rest of Europe
4	13,1	North America
5	2,0	South America
6	37,1	Asia
7	7,8	Other



NUMBER OF EMPLOYEES AS OF 31/12/2018

1	Germany, Schmidt + Clemens	584
2	Spain, S+C Spain	227
3	Czech Republic, S+C Alfanametal	112
4	Malaysia, S+C Asia + Schmidt + Clemens Engineering Services	99
5	Other	3





PETROCHEMICALS

- ◆ INTENSIFIED OFFER ACTIVITY
- ◆ POSITIVE NEW INSTALLATIONS BUSINESS

The recovery of the markets, which was already beginning towards the end of 2017, continued in 2018. In the second half of the year in particular, supply activity intensified and the projects being worked on became more concrete. Another positive factor in this context is the **new installations business**. Oil prices reached a three-year high in the summer, and **olefin prices** moved accordingly. Against this background, the implementation plans for a large number of large-scale projects have since become more concrete. Some of these projects could already be secured by S+C at the relevant engineering companies. Particularly noteworthy in the past financial year, however, is the market for sponge iron direct reduction. Due to the sharp increase in scrap prices, the end products of these plants (DRI/HBI) became competitive again and many plants went back into operation or increased their production volumes. This led to a resolution of the investment backlog of the last 2-3 years. All in all, orders received increased by approximately 30% compared to the previous year, even though prices were under heavy pressure.



THE MARKET SEGMENTS IN DETAIL:

◆ Ethylene

In the cracker segment, we continue to focus on the commercialisation of our aluminium oxide-forming material **Centralloy® HT E** and our profiling technology SCOPE.

Through intensive data and information exchange with the plant operators, together with „state of the art“ simulation models available at S+C, we are in a position to visualise the advantage for our customers in using these technologies. In the course of the year, several multi-year framework agreements were concluded with some plant operators. The fact that more than 330 furnaces were equipped with **Centralloy® HT E** technology by the end of the year speaks for itself.

Our state-of-the-art technologies were therefore also the focus of a technical symposium held in September for the European operators of olefin plants, as well as the scientific exhibition congress Achema in Frankfurt in July.

◆ Reformer

Incoming orders in this segment remained largely stable compared to the previous year. However, the share of new installation business has risen significantly. Due to the capacity reserves of our production facilities, we were again able to help some of our customers with fast replacement deliveries in the event of damage occurring. In addition, this market is characterised by its extreme price pressure.



Direct reduction

Due to the sharp increase in scrap prices since the second half of 2017, this market has been characterised by extreme revival. The investment backlog of past years in this market segment has been made up for this year. Order intake for corresponding reformer tubes or **pre-heater coils** was almost quadrupled compared to the previous two years. Particularly noteworthy here is the fact that our material **Centralloy® 60 HT D** and an expansion of our product and service range played an important role here.

Convection zones

In the market segment of convection zones, we were able to book a major project for a plant extension in the second half of the year. Further projects in this segment are offered and are in the evaluation stage. A possible expansion of this business area is currently being addressed by an independent project team as part of the „**Ambition 2020**“ corporate strategy.

Outlook 2019

We look forward to the financial year 2019 with a comfortable order backlog of approx. 180m EUR. Here, the market for **olefin plants** dominates. We believe we can once again score points with our technologies and thus secure our market share.

The restraint in investment projects (new plants/extensions/revamp) dissolves and the projects become more concrete. We will continue our close technical cooperation with our customers in 2019 and, if possible, intensify our service activities, for example. The experience of recent years clearly shows the advantages of this approach for us as a supplier, but especially for our customers. We are sure that we can maintain our market leadership as technology carrier in the long term, and that we can ensure the competitiveness and process stability of our customers. As a supplier of tube systems as well as upstream and downstream processes, we can offer our customers „**everything from a single source**“. In the process, services will become more and more important. These services are offered by our established Research and Development centre as well as our **Field Service** division. For example, we can also offer the installation of our tube systems.



We are sure that we can maintain our market leadership as technology carrier.

PURCHASING AND LOGISTICS

INTERNATIONAL SUCCESSFUL ALIGNMENT



Dominic Otte
Managing Director
Production and Engineering

Purchasing and logistics faced considerable challenges in 2018 in order to maintain the price level achieved in recent years. Thanks to the international orientation of S+C logistics and the decentralised but globally managed procurement network of the Group, we have to a large extent achieved this. The positive experiences made since the introduction of an internet-based procurement platform for logistics services in the headquarters have been transferred to the Group and the platform has been made available to all S+C companies. Stringent bundling of volumes along with a reduction of suppliers taking into account consistent risk management in procurement has contributed as well as the use of analysis software.

This enables our buyers to pursue value-analytic approaches with the suppliers in workshops and to determine the optimal manufacturing process for the required components on the basis of cost simulations. Another component that enabled the internationalisation and the merging of the S+C purchasing divisions across company borders into a purchasing organisation was the restructuring of the **ERP system**. All essential Group's purchasing divisions work in the same ERP system. This speeds up the exchange of information and allows unrestricted coordination and thus permanent optimisation of all purchasing processes.



The restructuring of the ERP system enabled the internationalisation and the merging of the S+C purchasing divisions.





PRODUCTION

FEELABLE ACQUISITION CAPACITY

At the Kaiserau site, a modern vertical centrifugal casting machine was successfully put into operation in December. Due to the centrifugal forces acting in the process, we achieve significant qualitative improvements in the manufacture of fittings made of our patent material **Centralloy® HT E**. The dimensioning with a 3-metre face plate enables new manufacturing processes. Noticeable is the capacity expansion that helps to reduce through-put times and improve delivery performance.

In addition, a **new heat treatment furnace** has been installed that allows process temperatures up to 1200°C. The new X-ray bunker, which was built within seven months, was commissioned in May 2018. With a length of 25 metres and its two gates, it helps to increase the transmission capacity at the German headquarters by 100%.

The first **settling robot** was ordered for the **fitting production** area, which will be developed until mid-2019 to grind fittings. This will lead to further innovative development projects for Germany as a production location. The change into a ready-to-install-components-supplier has already been progressed at S+C Alfanametal.



The investment in a modern melting furnace, the individual part tracking and implementation of Lean Management underlines once again that the Czech subsidiary is an important member of the S+C Group. Investments have also been made at the Spanish company. Most significant investments were: a dye check cabin for small pieces (reducers, flanges, cones), a creep testing machine CYMAT, a stereo microscope and a laboratory vacuum oven.

The focus in the horizontal centrifugal foundry in 2019-2020 will be on the automated capture of process parameters in order to obtain even better information about the process and to be able to initiate measures accordingly. Due to the good **demand for SCOPE® tubes** a second SCOPE machine was ordered. This will go into operation in the third quarter of 2019.



+ The market for pumps and valves developed well. The general mechanical engineering boomed again in 2018.

SPECIAL PRODUCTS

IN THE SPECIAL PRODUCTS DIVISION ORDER INTAKE INCREASED BY GOOD 8 PERCENT. NEVERTHELESS, THE AMBITIOUS GOALS DID NOT REACH THE AREA.

The markets were very different. If sufficient margins could be achieved with heat-resistant materials, for example in industrial furnace construction, the price situation was under great pressure, especially in the field of separation technology. The market for pumps and valves developed well.

The market for energy technology products was significantly weakened in 2018, while general mechanical engineering boomed. S+C continues to be a supplier of premium products with a high demand on technology.

Material and design consulting will continue to be in the foreground in the future. The aim of the Special Products division is to provide customers with optimal products for a wide variety of applications. It is particularly important to know customers' processes and procedures in order to be able to offer sound advice.





At the end of the financial year, **Special Products** sales were integrated into the Business Development department, in order to lay a solid foundation for the further development of the division. S+C is unparalleled in the industry with its wide variety of production capabilities - static casting, horizontal and vertical centrifugal casting. Our own products are supplemented by precision casting and forging components. These opportunities, coupled with the knowledge of materials and applications, will continue to open up new markets for Special Products in the future.

As part of the strategic project „**Ambition 2020**“, the Special Products sales area was further strengthened. An interdisciplinary Group is developing forward-looking measures for the sector in order to further strengthen S+C's market position.

THE SPECIAL PRODUCTS SALES AREA WAS FURTHER STRENGTHENED.

RESEARCH AND DEVELOPMENT

„The development of the steam cracker of the future“ is the ambitious goal of the EU-funded project „IMPROOF“. This future cracker should be distinguished by outstanding energy efficiency and low emissions. As a materials supplier, S+C is represented in a consortium of renowned universities, engineering companies and end users. In tests on material samples and coils produced by S+C for a test reactor, the potential of the material **Centralloy® HT E** in combination with the internal profile technology SCOPE (short SCOPE fusion HT E“) to achieve the project objectives could be pointed out. These S+C technologies have therefore been selected for implementation on an industrial scale. It is the task of S+C in the further course of the project, to equip a **steam cracker** for an end user with SCOPE fusion HT E-Coils to demonstrate the positive effects on an industrial scale.

In a bilateral project with a prestigious European university, a novel and globally unique test stand was set up. This will be used in the future to investigate coke formation on materials under steam cracking conditions.

By working closely with our customers, we have been able to carry out many and extensive tests on **Centralloy® HT E** ex-service material after different service times in steam cracker operation. The oxide layers of these samples were measured and the composition analysed. In this way, a database was created that allows conclusions to be drawn about the operating temperatures and the behaviour of the materials in the respective system designs.

The pilot project for the introduction of the Six Sigma methodology at S+C, which was started in close cooperation with production, was successfully handed over to production in 2018 and will be continued there by the newly trained and highly qualified technical staff.

A company-wide strategy project examined the possibilities of offering our customers an even wider range of services. In the future, further laboratory services will be offered directly to S+C customers in the field of metallurgical investigations. The expansion of the customer support team will allow even more intensive exchange with our customers, which will provide valuable input for research and development work.

Also, further investments were made in the research infrastructure. In the field of microscopy, new possibilities could be created. The capacity for creep testing has been doubled by purchasing additional machines. The **Research & Development** Services division has a laboratory and technology centre that is unique in its equipment and capacity in our industrial sector.





In the future, further laboratory services in the field of metallurgical investigations will be offered directly to S+C customers.

By publishing conference papers, S+C's know-how advantage as a technology and market leader has once again been demonstrated. The paper was given much attention in the context of the **NACE Corrosion 2018 Conference** (Phoenix, USA) on the ageing behaviour of S+C cast materials in sulphurous atmospheres, as well as the paper on the 63rd Safety in Ammonia Plants and Related Facilities Symposium (Toronto, Canada) on the use of **new S+C materials (so-called „low-carbon micro alloys“)** in the area of the outlet components of steam reformers.

At the world's largest trade fair for the chemical process industry, **ACHEMA 2018**, S+C held an event for customers as part of the conference programme.

As a special highlight, the S+C customer **Equate** (Kuwait) presented positive operating results after using the material **Centralloy® HT E**.

In addition, the RDS team was involved in the organisation of the **European S+C Ethylene Symposium** and gave several lectures on the topic of new S+C technologies and **simulation tools** for evaluation of operating data in the steam cracker.



HUMAN RESOURCES

MOTIVATED AND QUALIFIED EMPLOYEES

As of 31 December 2018, there were 1025 employees in the Group worldwide, thereof 584 (including apprentices) at the headquarters in Lindlar-Kaiserau. The apprenticeship rate in the year under review was 3.94% and thus at a high level. In total, S+C currently trains 23 apprentices and students.

HR strategy measures - based on „Ambition 2020“

The 2018 financial year was marked by the strategic realignment „Ambition 2020“. The focus of the corporate strategy is on the development of a sustainable growth path, which uses targeted measures to ensure that the ambitious goals of the S+C Group are achieved. The market position should be further expanded.

The stated goal of „Ambition 2020“ is to generate sales 300 m EUR per annum and a return of at least 6.5%. A large number of growth projects in sales and cost and process optimisation projects in production and administration have already been initiated nationally and internationally. S+C is aware that the defined goals can only be successfully implemented with motivated and well-qualified employees.

Projects in the area of human resources (including assessment systems, Academy, further qualifications) and the implementation of a new culture of innovation and communication are already being put in place. In addition, work continues on new strategies to increase employer attractiveness.

S+C future contract

Another significant constructing block in the financial year 2018 was the conclusion of a **future contract**, which was realised together with the works council and the trade union IG Metall. The difficult competitive situation, combined with a difficult-to-reach collective bargaining agreement, makes it necessary to significantly increase both sales and profitability, also to secure the required investments in preserving investments and for future investments. The future contract is thus understood as an important element to ensure the future and site security.

At the same time, this contract is intended to meet the demographic challenges at the headquarters of the corporate Group. In the coming years, the parties to the operation will jointly conclude agreements, taking into account the collective agreements, which are equally juxtaposed in social as well as economic terms. All stakeholders will be guided by this principle. In order to promote particularly hard-working and capable employees, the introduction of a performance assessment for collectively agreed employees was agreed for the future.



Outlook 2019

In addition to the demanding strategic projects, the retirement of Ralf Welters, HR manager of the S+C Group, is scheduled for 31/03/2019. Personnel and structural changes have already been planned and partially implemented in order to ensure a sustainable personnel policy in the S+C Group in the future.

S+C Academy on the road to success

For the second time in a row, S+C was honoured as one of the best training companies in Germany. For many years, apprentices at S+C have been among the best in the Cologne chamber of commerce region. In 2018, S+C trained the best foundry mechanic in Germany. The laudatory speech was given by Federal President Frank-Walter Steinmeier in December.

In addition to supporting its own trainees, the S+C Academy also successfully offers **training modules and exam preparation courses** for external trainees.

In summary, these measures are intended to improve earnings at the Kaiserau location and ensure continued growth for the S+C Group. For S+C as well as the region, such certification is unique.



+

The future contract is thus understood as an important element to ensure the future and site security.

Passion Innovation Tradition



For us at Schmidt + Clemens, passion, innovation and tradition are no empty promises!

Visit our booth and make your own experience what it means to us to create first-class solutions in high-alloy stainless steel using centrifugal, moulded or investment castings methods. We look forward to seeing you!



Duesseldorf
25 – 29 June 2019
Booth E03 Hall 9



Maastricht (NL),
26 – 28 November 2019
Booth G49