

Schmidt + Clemens: Shaping with foresight and bearing responsibility



Static casting is one of the various processes that S+C uses to manufacture individual products for customers.

After more than a year of operating under its new corporate strategy developed in 2021, the Lindlar (Germany) based high-quality special steel specialist Schmidt + Clemens is firmly focusing on sustainability. During an interview with Stainless Steel World, Lars Niemczewski, Chief Communication Officer, points out that sustainability is about more than protecting the climate.

By Catrin Senger, Stainless Steel World Germany. Photos: Schmidt + Clemens

Family enterprise Schmidt + Clemens (S+C) has been combining tradition and innovation for more than 140 years. Founded initially as a steel trader, the resourceful company founders opened a forge in Lindlar where mould casting production shaped early business operations. The innovative company has had a decisive influence on the spun casting process since the 1950s. Today, S+C offers a wide range of processes with vertical and horizontal spun casting, static casting, investment casting and forging components.

In addition to its German headquarters in Lindlar-Kaiserlauter, S+C also produces in Spain, the Czech Republic, Saudi Arabia and Malaysia. Three sales offices in the USA, India and Brazil, together with over 30 sales representatives, guarantee a worldwide presence of the high-quality special steel specialist. With its high-quality special stainless steel components, S+C is the world market leader in tube systems for the petrochemical industry.

Creating. Innovation. Together. Research and development (R&D) has played a central role in the

company's evolution, and today, S+C operates one of the largest research and development departments in the high-quality special steel industry. "Our aim is not to sell off the shelf products, but to develop products tailored to our customer's individual needs", explains Mr Niemczewski. "We closely consider all factors and ask the important questions, such as what systems operate at the customer's site? What raw materials are used? What is the quality of the oil and gas products, and which impurities are present? We exchange ideas about

process parameters and temperature zones. Ultimately, we produce a modular tube system design together with the customer."

This concept is expressed simply and clearly in a new slogan S+C has developed for AACHEMA fair: Creating. Innovation. Together.

It represents their core philosophy to design together, not to stand still but to discover and develop new things continually, and to work together. It also highlights the company's emphasis on direct contact with customers, research institutions and universities.

Best available technology

Therefore, it is not surprising that S+C's R&D activities are among the most extensive in the stainless steel foundry sector. Over thirty employees are employed in this area, essentially made up of engineers and researchers charged with investigating new

materials and the optimisation of materials and processes. The company has set up a small R&D production unit, including a melting furnace and a spun casting machine for trial castings.

"This saves a lot of time and enables us to create fast development cycles", explains Mr Niemczewski. The specialised equipment in the R&D certainly is undoubtedly the envy of many companies. The three scanning electron microscopes, several creep furnaces with online monitoring, and the XCS 3000 corrosion test rig, which is unique in the world, reflect the company's willingness to invest in R&D.

Corporate Strategy 2021

In 2021, S+C developed a new corporate strategy whose core message is: the sustainable use of the planet's current resources. Jan Schmidt-Krayer, Managing Partner/CEO, has defined this as: "The responsible use of resources, the environment and society are firmly anchored in the DNA of our company."

The challenge for S+C is to enable its customer to produce and act sustainably. For example, the stainless steel components manufactured by S+C can achieve a lower energy input or reduce CO₂ emissions.

Sustainability

"Sustainability is more than climate protection", emphasises Mr Niemczewski. "The UN's 2030 Agenda lists 17 Sustainable Development Goals that promote sustainable peace and prosperity and protect our planet."

"S+C is committed to many facets of sustainability and is absolutely committed to the UN goals. For our company, sustainability is more than just climate protection measures. Sustainability includes partnerships, affordable clean energy, decent working conditions, poverty reduction and gender equality."

"For S+C, sustainability also plays an essential role in customer relationships, where the goal is long-term connections with business partners. The basis for this is trust. Where people work so closely together, internal synergies are revealed", says Mr Niemczewski, describing the company's cooperation with customers. "Schmidt + Clemens has earned this trust, and we are proud to have achieved it."

Social responsibility

As a family business, S+C thinks in generations and not in the short term; this is also an aspect of sustainability. The company also wants to give something back to the societies



Lars Niemczewski: "Sustainability is about more than protecting the climate."



Schmidt + Clemens's willingness to invest is reflected in the equipping of its Technical Centre with three scanning electron microscopes.

where its production takes place. Its commitment to sustainability in these regions ranges across various areas such as sports, education or non-profit status. In Germany, the company is firmly rooted in the district Oberberischer Kreis. S+C not only regularly donates to local and regional organisations but also supported the trainees last year, for example, in carrying out a volunteer day at the Tafel in Gummersbach. It is also an active member of the Werksarztzentrum Oberberg Association (company medical centre), which looks after over 175 companies with around 24,000 employees. The Chairman of the Board

of the Werksarztzentrum Oberberg, by the way is currently Jan Schmidt-Krayer. Despite their own company being affected by the flood disaster which struck in July 2021, S+C employees collected EUR 11,000, to which S+C added another EUR 9,000, and the total was donated to assist flood victims in the Ahr Valley. S+C also sets high standards in staff training and has won multiple awards for its training. "The ongoing education of our staff is a top priority at S+C", explains Mr Niemczewski. "Training opportunities are being continuously expanded. Within our Academy, S+C combines the topics of training and further education. Last



The spun casting machine for trial testings in the R&D facility.



The automatic tube welding facility at the Lindlar site.

year, we invested more than EUR 90,000 in the S+C Academy to expand the range of electrical engineering and automation courses." The following investment is already planned: a high-tech training robot which will soon be delivered on-site to the Academy.

IMPROOF – steam cracker of the future

By the time the company implemented its new corporate strategy in 2021, S+C was already involved in various sustainability activities, including the European Union-funded IMPROOF project. From 2016 to 2020, plant operators, component manufacturers, institutes and universities jointly developed a 'steam cracker of the future'. The heart of every steam cracker is the radiation zone, in which only alloys of the highest quality are used. This is where S+C's materials expertise came in: an essential part of the project was SCOPE Fusion HTE from S+C. This combines the high-temperature material Centralloy HTE and an internally profiled tube. Through targeted turbulence, the profile influences how effectively heat introduced from the outside is distributed in the gas flowing inside. The bottom line is heat optimisation and energy savings and thus also higher efficiency of the furnace. SCOPE Fusion HTE offers customers two options for optimising their plant: they can achieve a higher production rate or reduce their energy consumption to achieve their own sustainability goals.

Plant construction on the rise
Referring to recent trends in the industry, Mr Niemczewski comments:



In addition to the headquarters in Lindlar, further production facilities, sales offices and sales representatives abroad guarantee Schmidt + Clemens's worldwide presence.

"Today, customers don't just buy a product. Increasingly we see that they also want to have the product installed, and our On-Site Services department can take care of this." A good example is the 450 employees recently involved in a project in Oman to carry out regular testing and maintenance work, which is also part of S+C's portfolio. The extensive planning work took almost a year. It included the construction of a small town to house the staff close to the customer's site, and the entire infrastructure that 450 people required for a two-week assignment. Health & Safety project planning, welding activities and the welding technology were all in the hands of S+C. For projects such as this, S+C relies on its global network. It's another reason that the company pays particular attention to ensuring that all employees in the S+C network receive regular training to guarantee a uniformly high level of quality. Once again, we encounter the topic of sustainability: this time in the context of education and further training. "Continuously expanding our employees' knowledge, while also recognising their professional ambitions and experience, ensures that motivation levels stay high. Ultimately, the balance between ecology and economy has to be right", laughs Mr Niemczewski. And in this respect, Schmidt + Clemens is certainly on the right track.



The R&D facility has several creep furnaces with online monitoring.

Facts & Figures	
Founded:	1879
Manager:	Jan Schmidt-Krayer (CEO) and Dominic Otte (COO)
Head office:	Lindlar-Kaiserau, Germany
Other production sites:	Spain, Czech Republic, Saudi Arabia and Malaysia
Offices:	USA, India and Brazil
Turnover:	EUR 304 million (2021)
Employees:	> 1000
Operating area:	Almost 13 hectares
Products:	Spun, static and investment castings and forging of high-quality special steels. Engineering, Plant Engineering, On-Site Services