

GERMANY

QSIL:

Glass and Ceramic Materials for Innovative Future Applications

The QSIL Group is an innovative, internationally operating material specialist focussing on the production of fused quartz and, since 2019 as a result of external growth, on technical ceramics, too. The most important markets are the semiconductor industry, the light source industry as well as other industrial applications in plant and machine engineering, the chemicals industry, analytics and diagnostics as well as the production of glass fibres. QSIL has a globally diversified customer base. The customers include major companies from Europe, Asia and America. With the acquisition of Barat Ceramics GmbH (today QSIL Ceramics GmbH) and FCT Ingenieurkeramik GmbH in 2019, the Thuringia-based group grew to 750 employees and over EUR 115 million in sales. Accordingly, technical solutions with components made of oxide ceramics and non-oxide ceramics (aluminium nitride, silicon carbide and silicon nitride) are available to customers of the QSIL Group. Towards the end of 2019, Michael Keitz (MK), Spokesman of the Management Board at QSIL AG, agreed to explain the company's future strategies.



Fig. 1
Michael Keitz

CA: With the acquisition of Barat Ceramics GmbH in January 2019 and FCT Ingenieurkeramik GmbH in August 2019, an important milestone was set in QSIL's over 40 years of company history. In addition to materials based on fused quartz, a large number of ceramic materials and production technologies has been added to the QSIL Group portfolio. Moreover, with two more production sites in Rauenstein/Sonneberg and Auma, 350 employees were integrated. What strategy is behind these enormous investments?

MK: First, some information on our business in the fused quartz segment. This is a speciality material. We are one of the few producers worldwide, and employ essentially plasma fusion technology. In automated production lines, we manufacture round shapes/tubes, but we can flexibly adapt to individual custom-made products. Our most important business segments are semiconductors, photonics, lighting and glass fibres. Asia is our strongest buyer market (48 %). The domestic business accounts for 25 % of our sales while in the rest of Europe, sales are on a similar level at 22 %. With these activities, as an SME, we have experience in developing speciality products and technically sophisticated solutions for customers – especially where high temperature and chemical resistance are required. Moreover, fused quartz has other unique properties such as the UV and IR light permeability and no thermal expansion. Our strength is the high flexibility of an SME with a flat or-

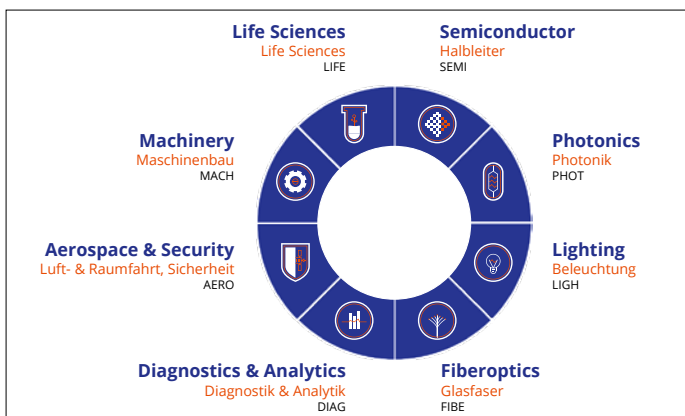


Fig. 2
User segments of QSIL products

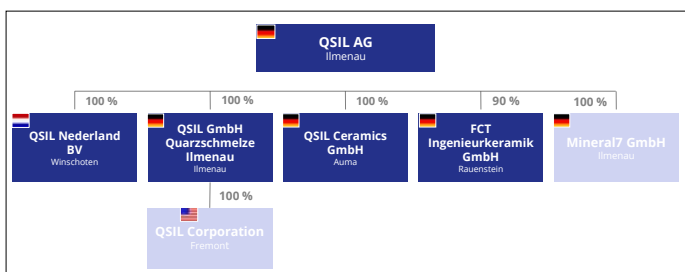


Fig. 3
QSIL Group structure

organisational structure. Our growth strategy is driven by our aspiration to work together with our customers to launch innovative future applications based on high-performance materials onto the market. With technical ceramics, we are now putting this on a much broader basis.

In addition, however, it is important in our business as an SME to reach a certain size as we work on lots of projects with large groups. For QSIL GmbH in Ilmenau, the semiconductor industry makes up 64 % of sales. Other important segments are UV lamps for water disinfection, reactor tubes for high-temperature applications as well as products for the analytical industry and the solar industry. QSIL in the Netherlands supplies products for the final applications glass-fibre preform handling, UV lamps for central water disinfection and indicators for the automotive industry as well as high-performance lamps such as sodium vapour lamps. With technical ceramics, we have now reached well over EUR 100 million in sales. We can bring our many years of international market experience with large groups as business partners to technical ceramics, a new business segment for us.

CA: What new user industries has QSIL gained by going into engineering ceramics?

MK: For QSIL Ceramics in Auma, the 49 % sales share in diagnostics provides an important mainstay. At FCT Ingenieurkeramik, plant and machine engineering takes first place with 46 %, followed by shield panels for the semiconductor industry, diagnostics and analytics, automotive

industry, aerospace. In Auma, plant and machine engineering, ballistics and environmental engineering are important buyer segments (Fig. 2).

CA: The number of employees in the QSIL Group almost doubled in 2019. How have you restructured the organisation?

MK: I lead the management team together with my colleague Dr Nina Huck. Those responsible at the various sites also have consulting competence across the different locations. Marcel van der Vegt from QSIL Nederland in Wirschooten takes care of purchasing and logistics, Dr Frank-Peter Ludwig from QSIL GmbH in Ilmenau looks after research and development, Martin Weber-Liel from QSIL Ceramics in Auma manages production and process management, while Andreas Goller from FCT Ingenieurkeramik in Rauenstein is in charge of sales. Helger Malzahn is responsible for finances and administration of the QSIL Group. So we still have flat hierarchies to ensure flexibility and accordingly dynamic operations. The individual locations have all expertise on site to promptly manage their individual business processes (Fig. 3).

CA: Do you see potential for utilising synergies at the ceramic bases in future?

MK: With certain limitations, as FCT Ingenieurkeramik is first the specialist for non-oxide ceramics and also produces zirconia materials, while Auma has specialised in oxide ceramics. In Rauenstein, there is a wider spectrum of shaping technologies, the sintering technology at the two sites is adapted to the materials. In Rauenstein, hard machining has been developed to an extremely high precision even for small shaped parts. An important competence at Auma is technology for joining metals and ceramics. In future, certainly intensive exchange on market-related and technological aspects will be maintained. There are always starting points for joint processing of projects. That will become more tangible in the next few months.

It is important to work together to reach our goal by providing customised components for innovative solutions for the technologies of today and tomorrow. A wide spectrum of materials, the strength of producing individual geometries for large and small parts – if required with high precision – in unit numbers relevant for the customer (prototypes, small-scale and large-scale series) are important pillars in our ceramics business. With this, together we can certainly score points in growth markets. In respect of the different utilisation of different machines or even production lines, however, synergies can evolve, and the sites complement each other efficiently in the short term, too.

In the glass segment, we are working with materials on sol-gel basis and therefore a technology for more complex-shaped parts than tubes, which by means of sintering are transformed into an amorphous material. In ceramics, not only process development, but material development are further advanced to realise our goal of material solutions for future applications. We shall continue to invest in these activities. In 2020, it is important to further network the locations, i.e. to launch joint projects and utilise the reciprocal strengths for all locations.

CA: Thank you for talking to us.

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