

SABRINA SCHILLING

"The reliability of our products is crucial"

TRUMPF supplies two of the most important components for chip production: high-power lasers for EUV lithography and plasma generators for the required process energy for coating the microchips. Martin Sauter is Head of Service at TRUMPF Laser Systems for Semiconductor Manufacturing (TLSM) and Christian Casar is Head of Service at TRUMPF Elektronik. They explain what role service plays in the semiconductor industry and how the company ensures the greatest possible availability for its customers.

What challenges does the semiconductor industry pose for TRUMPF?

Christian Casar: It takes several weeks to produce a chip. The smallest change to the production process can lead to it not working in the end. This, but also every minute of downtime for service is incredibly expensive. Chip factories cost billions and therefore run 24 hours a day, 365 days a year. Good and fast service and the reliability of our products are crucial. This is why the plasma generators from TRUMPF Elektronik have a product failure rate of only 1 percent. We also guarantee that all generators made in the last decade are built, tested and maintained to the same high standards - true to the motto "Never change a running system".

Martin Sauter: High productivity is essential for the success of the semiconductor industry. The EUV laser has an availability rate of over 99 percent. We are working intensively with our partner ASML to further increase this rate. The stability of the high-power laser's output also plays an important role. We are continuing to focus on technical solutions to minimize performance losses. Both for new systems and for retrofitting in the field. In addition, an excellent service network, fast response times and the seamless availability of spare parts are our patent remedy when things do come to a standstill.



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Christian Casar and Martin Sauter manage the service business for two of the most important components for chip production: high-power lasers for EUV lithography and plasma generators for the process energy required to coat the microchips.

If the availability of your products is so high, what jobs are left for your service technicians to do?

Martin Sauter: The service business for the high-power laser is not a classic repair business, but rather preventative measures so that the laser does not fail in the first place. An important requirement for this is error-free installation, one of the main parts of our technicians' work. ASML has a large global service network for ongoing operations. TRUMPF trains ASML employees so that they can carry out over 95 percent of service actions independently - also with the help of e-learning. Our experts also provide telephone support within 30 minutes if ASML requires more in-depth support.

In order to guarantee a seamless supply of spare parts, we work closely with ASML to ensure the best possible inventory management. We store the appropriate spare parts and tools for service work on site. If any parts are not be in stock, our logistics chain comes into play. For example, we have a warehouse close to ASML, which enables us to deliver parts to ASML 365 days a year in the shortest possible time.

“The long-term, close partnership with our customers plays an important role in the semiconductor industry.”

Christian Casar, Head of Services Electronics at TRUMPF

What service solutions does TRUMPF Elektronik offer its customers?

Christian Casar: The service business in the electronics sector focuses on repairs. In contrast to the classic “technician visits the customer” concept, with us the device comes to the technician. Service technicians repair the generators in-house at our service centers around the world. This enables the customer to directly remove defective devices from the system and install new ones, minimizing downtimes. In the controlled working environment of the service centers, TRUMPF also meets the high reliability requirements of the industry in the event of repairs.

TRUMPF places great importance on the motto “right first time”. The service technicians from TRUMPF Elektronik return repaired generators to the customer “like new” at the first attempt. They are no different from new devices in terms of reliability. TRUMPF also offers customers performance upgrades or conversions. This allows them to get more out of their installed machine base and increase the value of the generators. We also work together with the customer to find solutions to replace discontinued third-party products with our own products.

“People will continue to strive to make their lives better, easier, more convenient and faster, and all of this requires chip technology.”

Martin Sauter, Head of Services TLSM

Ditzingen, Freiburg, the Netherlands, Taiwan - how is the service network organized across countries and organizations?

Martin Sauter: Our global service network with over 500 employees takes care of the installation of the high-performance lasers. On-site specialists and experts from the operational readiness team carry out the remaining five percent of repairs that ASML cannot carry out. Our training centers and spare parts centers are located in Ditzingen, Taiwan, Korea and the USA.

Christian Casar: Thanks to our large service network, we can ensure customer proximity in all relevant regions. We therefore supply products that we can efficiently support worldwide across their entire service life. In the event of a service case, several teams from different countries may work together on the solution.



Martin Sauter and Christian Casar both have positive outlook of the future.

A look into the future: How will TRUMPF Service for the semiconductor industry continue to develop?

Christian Casar: Long-term, close partnerships with customers already play an important role in the semiconductor industry. We work together on product qualification until the rewards are reaped. We want to work even more closely with our customers and their processes. We feel that the "time to market", i.e. the product launch, is getting shorter and shorter and that service is getting involved earlier. We are also currently investing in a Tech Center at the existing TRUMPF site in Taiwan in order to repair products locally in large volumes.

Martin Sauter: There is a lot of movement in the chip industry: The Asian companies Samsung and TSMC are now also producing in the USA, TSMC is opening a new site in Japan, so we are also moving to Japan. If we had conducted this interview six months ago, I would have told you that Intel was coming to Magdeburg. Even if this has not yet happened, one thing remains certain: people will continue to strive to make their lives better, easier, more convenient and faster, and all of this requires chip technology.



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