

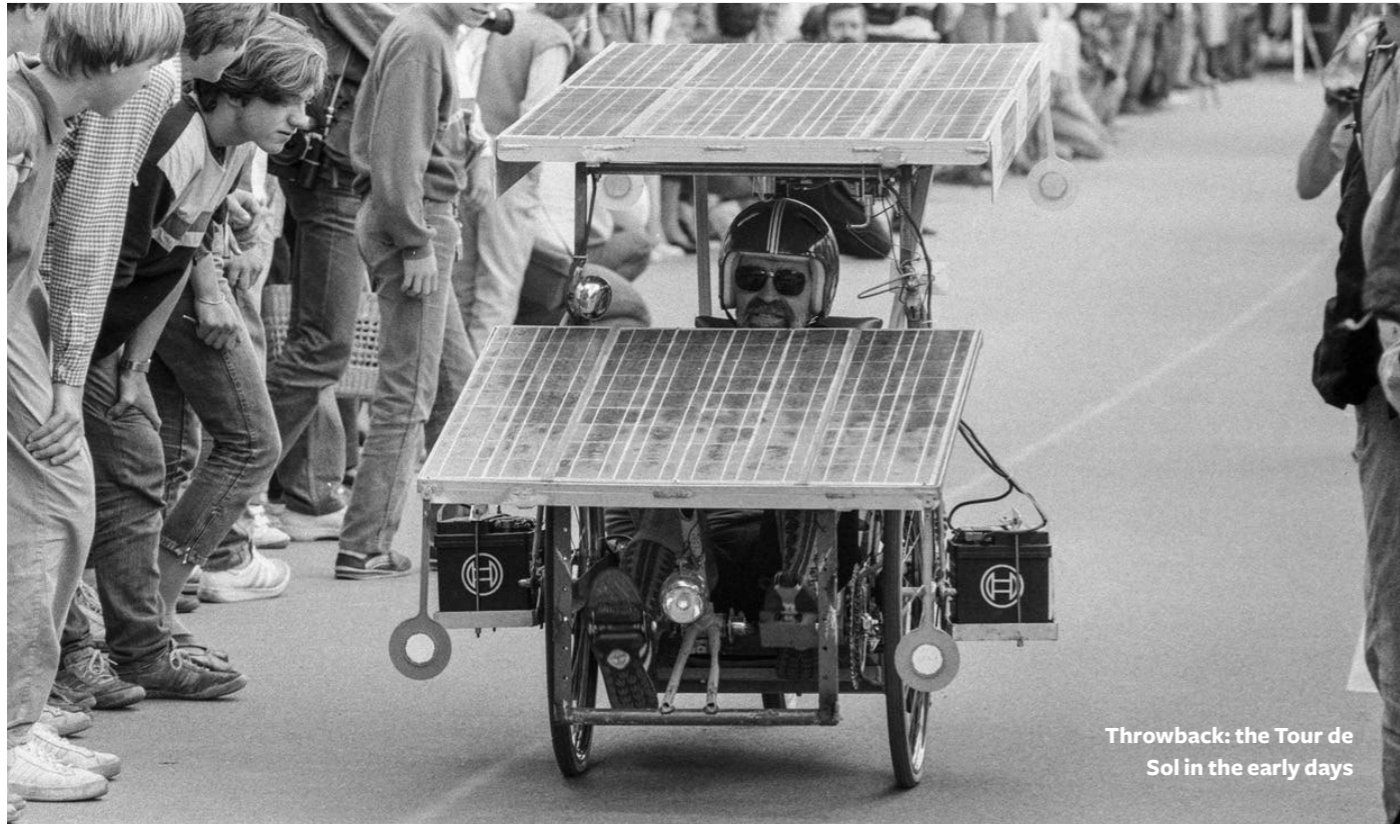
Going GREEN

BRUSA Elektronik AG is a leading engineering provider for all electronic and mechanical components of the e-Powertrain. Since the foundation of the Swiss company in 1985, BRUSA has significantly contributed to the worldwide breakthrough of electric mobility. Milestone spoke to COO and Managing Director Thomas Nindl about the green energy revolution.

THOMAS NINDL

COO, MD @ BRUSA Elektronik AG





Throwback: the Tour de Sol in the early days

Before Josef Brusa had even completed his engineering degree his sights were set on one goal – to transform the electric vehicle (EV) industry. After graduating, the Swiss wasted no time in establishing BRUSA Elektronik in 1985, the same year the Tour de Sol started, the world’s first rally for solar powered vehicles. Things moved quickly and three years later the company developed a highly efficient three-phase drive with a peak power of 12 kW at 120 V. Acute minds were also jumping onboard, including Axel Krause, who departed Landis & Gyr to be BRUSA’s chief technology officer. Soon after Arno Mathoy joined and helped develop a groundbreaking maximum power tracker with 99% efficiency. People were starting to stand up and take notice as Josef’s goal rapidly became a reality. Almost 40 years later and BRUSA is thriving. Countless milestones have been achieved and Josef and his team, including COO and MD Thomas, continue to fuel the green energy

revolution with innovation after innovation. COVID may have put the brakes on the global economy over the last year but BRUSA’s mission remains unchanged. “We are striving to grow in all areas: converters, motors, and charging systems for EVs and

other electrical drive trains,” Thomas explains. “Everyone at BRUSA is acting to address all market challenges and to find smart, sustainable, and valuable partners to help the company move forward. Changing the way people move requires more than just technical solutions like engines, it demands cooperation and teamwork. BRUSA has played a key role in the global breakthrough in electromobility since it was founded. As a technology leader and innovation platform, together with our international partners and specialists, we offer solutions for civil applications that give our customers a decisive advantage worldwide.”



The future of mobility is electric. We have been working towards this since BRUSA was founded and now the technology is about to make a decisive breakthrough

Always innovating
1995: BRUSA developed a highly efficient charger with a microprocessor, and the three-phase drive is beefed up with more power (up to 34 kW at 180 VDC – now also controlled by said microprocessor). 1998: the company created a 60 kW DC / DC converter, which is mainly used in vehicles with fuel cells. 2002: the sole proprietorship BRUSA Elektronik was converted →



Today: BRUSA teamed up with BMW to provide wireless charging for the 530e iPerformance



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BRUSA's production facilities are full of advanced tech

into the stock corporation BRUSA Elektronik AG. The primary goal – greater flexibility in terms of employee participation. The company moved to a larger space in Sennwald, Switzerland.

Big plans

Struggling to keep up? Innovation moves fast at BRUSA. In fact, the only thing that's managed to stall its progress over the last four decades is the world-stopping pandemic.

“The virus has slowed down our industry and the activity of our customers and partners,” Thomas says. “Within the company we had to deal with the pandemic and find appropriate solutions for our employees. Our main focus was to protect our staff from being infected, while all measures provided by the government had to be analysed, understood, and translated into our daily business.”

Luckily, with Europe's vaccination rollout in motion, things are looking up and BRUSA is planning ahead.

“We're aiming to play a significant role in the automotive industry for EVs with a focus

on onboard chargers, converters, and inductive charging systems in the next five year,” Thomas adds. “In some areas, together with our strategic partners, we hope to climb into the top five companies operating in certain areas.”

In 2010, work on the company's HQ was completed giving it an extensive infrastructure for the development of power electronics, environmental tests, and several drive benches up to an output of 1000 kW. As many as 10,000 units can now be produced every year. Two years later BRUSA made a huge breakthrough by making the NLG6 fast charger, the world's first charger



We are known as a pioneer – we intend to keep it this way

that can be operated on three-phase current connections and installed in an EV.

Thomas is the first to admit that pioneering in the EV field wouldn't be possible without a collective spirit. “The thing I love most about my role is working alongside my colleagues and partners, we are all on the same level. It's great discussing ideas with other CEOs from large companies – the kind of people you only usually see in the newspapers or on the TV. Now I get to sit face-to-face with them and talk about cooperation, supply chains, and customer relations. However, there are times when we just relax with a glass of wine.”

One of these big players BRUSA's MD may be referring to is BMW. In 2018, the two companies teamed up to provide wireless charging for the 530e iPerformance, billed as “the world's most successful business sedan” by BMW. “Big companies turn to us because we have so much experience in e-mobility – this is unique in a relatively young industry and puts us in pole position for many projects. We are known as a pioneer, and we intend to keep it this way,” Thomas explains. [➔](#)



A BRUSA FUTURE:

- Thomas Nindl: “We are convinced that the future of the automotive industry is electric where every vehicle will utilise some form of electric drive (HEV, EV, PHEV, FCEV). Moreover, this electrifying revolution will not be restricted to the automotive industry alone. Almost every daily application is likely to benefit from the rapid technological advances in our industry, home energy systems being just one prime example. One important condition for electrification, especially in the automotive industry, is the exciting breakthroughs in battery technology enabling long ranges and cost parity. As a direct result of the change in battery technology the Total Cost of Ownership (TCO) of an electric car will be lower in comparison with a conventional vehicle. Wireless charging will replace conventional and resource wasteful cable charging and additionally the source of energy will completely switch from fossil to regenerative fuel proving the environmental credentials of electric vehicles.”

Going forward, BRUSA recently took its cooperation with Austrian EV motorsport frontrunner STARD to the next level by signing an agreement to co-develop and market current and next-generation high-performance e-motors, inverters, DC-DC converters, and development services for motorsport and special applications.