tacterion

tacterion.com
Sonnenstr. 1 D-80331 Munich
press@tacterion.com

tacterion Press-Kit

Abstract

tacterion is a high-tech sensor company based in Munich/Germany. The startup was founded in 2015 as a spin-off of the German Aerospace Center (DLR). tacterion develops and markets the unique tactile sensor technology called sensorskin. sensorskin is a highly flexible sensory layer that measures interaction and pressure on any surface. This patented sensor technology was originally developed for robotics and provides the sense of touch for products and machines. sensorskin is highly stretchable, extremely robust and can be applied to complex and deformable surfaces. The sensorskin modules are integrated into industrial applications as well as in consumer products and devices. Product engineers and interface designers can offer a more natural and individual user experience than ever before - driven by haptics. The integration of these tactile sensors will enable entirely new functionality for the end-users interacting with the products. tacterion enables B2B customers to create revolutionary human-centered products that revolutionize the way we interact with technology. But also increases in efficiency in connected industrial applications can be realized. The target markets are Robotics, MedTech, Automotive and Human-Machine-Interaction in Consumer Electronics.

tacterion's interdisciplinary team combines high-tech research and engineering with agile start-up culture and market orientation.

It is tacterion's mission to enable B2B customers to create revolutionary products. World-leading companies partner up with tacterion to make a difference in their industry. tacterion provides them with customized solutions for sensor hardware, electronics, software and tactile data management as well as support with product development.

The spin-off project was supported by the Helmholtz Association's technology transfer program „Helmholtz Enterprise" as well as by the German Aerospace Center (DLR). tacterion successfully graduated from UnternehmerTUM's TechFounders accelerator program in 2015.

tacterion won several awards: It was selected as one of the top 3 IoT startups in Germany in Bitkom's Innovator's Pitch competition. In May 2015 the company was awarded the best start-up in the Materials & Manufacturing category of the Pioneers500 challenge.

At the moment the company develops individual sensor solutions for a number of world leading companies. Simultaneously the ramp-up for high volume sensor production is being prepared.

The company is by led by the brothers Dr. Michael Strohmayr and Daniel Strohmayr.

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Technology

sensorskin frames two product lines, sensorskin C. and sensorskin R. sensorskin Capacitive is built for human-machine touch interaction, sensing and control. sensorskin Resistive is built for analysis of grip/grasp forces, for pressure distribution measurement and pressure monitoring.

Both product lines are fully polymer based – no rigid materials are inside the sensory layer. It is at the same time completely stretchable, sensitive and robust. This means that it makes surfaces sensitive where no tactile sensors could be used before. tacterion relies on a profound background in materials science and polymer technology know-how.

The sensor is now applied to a number of Internet of Things applications. By using sensorskin devices and equipment become intelligent since the analysis of how they are being touched and grasped leads to a more direct and intuitive interaction. With this technology new interactions are possible by tracking or analyzing forces and connecting products, even deformable/3D-curved surfaces. sensorskin has the potential to become one of the key technologies for the next generation of Human-Machine Interfaces e.g. in virtual reality.

In professional or industrial IoT applications, new levels of efficiency can be reached. Data can be generated to intelligently monitor systems or efficiently organize machine overhaul trough predictive maintenance.

tacterion provides more than just hardware. Individual software and data management solutions are part of the B2B solutions. Once implemented in high volumes, sensor data enables new business models for industry customers. Sensor data can be generated and gathered where it was impossible in the past. These can be analyzed by big data methods. In future scenarios, sensorskin supports Machine Learning and artificial intelligence development.

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Founders

Dr. Michael Strohmayr

Dr.-Ing. Michael Strohmayr is CEO/CTO of tacterion. He invented and developed the base for tacterion's sensorskin technology at the Robotics and Mechatronics Center of the German Aerospace Center (DLR). He is responsible for Strategy, Polymer Sensor Technology, IP Management as well as the Manufacturing Technology.
He studied Mechatronics at the University of Applied Sciences in Augsburg and Biomedical Engineering at the Technical University of Munich. He did his Ph.D. in Robotics at the Institute for Intelligent Process Control and Robotics (IPR) of the Karlsruhe Institute of Technology (KIT) and at DLR. He has extensive work experience from DLR (more than 10 years) and Bosch.

Daniel Strohmayr

Daniel is Co-CEO of tacterion. He is responsible for Strategy, Business Development, Marketing & Sales. He studied Business Administration and Innovation Management in Germany (KU Eichstätt-Ingolstadt and LMU Munich), the U.S. & Portugal. In addition he graduated from the Technology Management Honors Degree program of Munich's Center for Digital Technology and Management (CDTM). During and after his studies he worked for two years at the Fraunhofer Society Headquarters' Technology Management and supported potential spin-off teams with business development. In 2014 he joined a strategic consultancy specialized on family companies to work on building up the new "Innovation & New Business" department. Since mid 2015 Daniel is working full time for tacterion.

Michael and Daniel are brothers.

About the tacterion team: tacterion works together with a number of students and graduates from different backgrounds: industrial design, electronics engineering and computer science.

tacterion relies on a network of leading institutions, companies and individuals to make use of the best know-how and skills available to commercialize the sensorskin technology.

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Company Story

tacterion was founded as spin-off of the German Aerospace Center (DLR). The company's core technology is based on a profound background in materials science and polymer technology. It was developed since 2007 at the German Aerospace Center's Robotics and Mechatronics Center in Oberpfaffenhofen. The technology was originally developed for Robotics applications and is protected by a number of patents. Once the technology was ready, the transfer towards industrial application was prepared at DLR. The founder team formed in 2014 to pursue the spin-off project. Their endeavor was supported by technology transfer program "Helmholtz Enterprise" of the Helmholtz Association as well as DLR.

tacterion was chosen to take part in the first batch of UnternehmerTUM's accelerator program TechFounders in 2015 where it completed a successful pilot project with leading automation company Festo.

In the startup phase tacterion won several prizes and awards: it was No. 1 Prize Winner of the Entrepreneurship Award of the European Robotics Forum in Vienna March 2015. In December 2015 tacterion was selected to be one of the top 3 IoT startups in Germany in Bitkom's Innovator's Pitch competition. In early 2016 tacterion became member of the exclusive worldwide community of Hardware Startups Hardware Club (http://hardwareclub.co/). In May 2016 tacterion won the Pioneers500 Pitch competition in the category "Materials & Manufacturing", more than 3,000 startups had applied.

Together with leading partners in manufacturing tacterion is currently working on preparing high volume production of the sensors. In mid 2016 tacterion took on board an investor to finance the company's short- and mid-term growth.