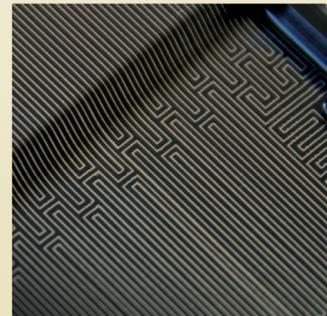
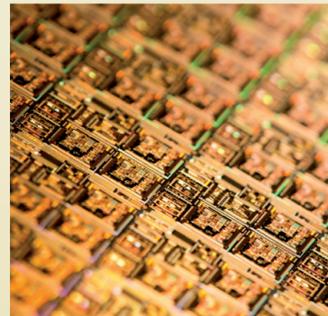


R&D Services

We support your development: from the initial idea to the finished product – across all industry sectors.

We stand for client- and industry-oriented, application-driven research, development, and production with microsystems engineering. In close teamwork with our trusted industry partners, we realize innovative products and technologies in the pioneering fields life sciences and medical technology, sustainability, energy and environment, mobility, and industrial internet.



- **Services**
 - > Sensors
 - > Actuator + dosing technology
 - > Microelectronics
 - > Integrated microsystems
 - > Analytics + lab-on-a-chip
 - > Energy harvesting + energy management
 - > Information technology
 - > Measurement and testing technology, damage analysis
 - > Modeling + reliability
- **Technologies**
 - > Silicon technology
 - > Precision machining
 - > Polymer and molding technologies
 - > Structuring of surfaces
 - > Micro assembly + packaging
 - > Printing techniques
- **Production**
 - > MEMS Foundry
 - > TransferFab micro assembly line
 - > Lab-on-a-Chip Foundry



Hahn-Schickard is certified by the DIN ISO norm 9001:2008



Contact

■ Hahn-Schickard-Gesellschaft für angewandte Forschung e.V., Germany

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Intelligent Solutions with Microsystems Engineering



Visions to Products

Partners

We are at home in the region – and in demand worldwide.

With a total of 220 employees in the Southwest of Germany at our sites in Stuttgart, Villingen-Schwenningen, and Freiburg, we at Hahn-Schickard do applied research and development in the areas of microsystems engineering, micro assembly technology, microanalytical systems, and information technology. We are dedicated to turning product visions into innovative products – with you and for you.



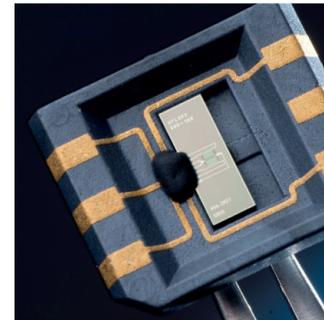
Our many years of experience in industrial development give you peace of mind in developing intelligent sensors and products: We provide support and guidance for your project from the design stage to serial production, react quickly and flexibly to your demands, and work in accordance with industry-compatible, certified processes. By choosing us as your partner, you reduce the time to market of your product, minimize your developmental risks, and save money. We offer you made-to-measure forms of collaboration and advise you on how to take strategic advantage of funding programs.

We engage in networking to help you quickly find the right partners for your needs. Our networks include actors from the industry, research, and training sectors. We are in close contact with the universities in Stuttgart and Freiburg as well as the universities of applied sciences in Offenburg and Furtwangen, giving us access to the latest technologies. We pass this competitive edge on to you.

Problem Solvers

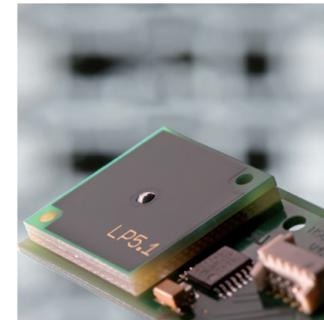
We take on your challenges and work with you to find innovative solutions.

No matter what you are interested in developing, you will be impressed by our solutions. You benefit from our many years of experience helping companies make a big splash with tiny components.



Differential Pressure Sensor

We developed a differential pressure sensor designed to regulate air conditioners for Gruner in Wehingen. The sensor is based on a chip that uses a thermal principle for flow measurement. We have been producing it in our clean room in Villingen-Schwenningen since 2002. To date, we have delivered 1.8 million of the sensors to Gruner and other companies. They have proven their effectiveness in industrial applications.



Inclination Sensor

We teamed up with 2E mechatronic to develop mechatronic fluidic inclination sensors for Leica Geosystems. Installed in laser measuring devices, the sensors can be used to measure distances and determine angles as well as height differences.



Laptop for the Blind

The company Metec uses Braille modules from Hahn-Schickard in their laptops for the blind. A new tablet display enables blind computer users to identify graphics. Approximately the size of a DIN A4 page, the interactive display contains a total of 720 individual Braille modules produced at the Hahn-Schickard TransferFab micro assembly line.

Future Shapers

We are one step ahead: conducting applied research and development, preparing innovations, and helping you transfer them into products.

With an emphasis on fields that are shaping our future, like mobility, environment and resources, health and care, and information and communication, we help small and medium-sized businesses realize innovative products and technologies.



Smart Wearables

We develop intelligent helpers for everyday life. Our "smart shoe" laces up on its own, providing support for people who are no longer capable of doing it themselves. It "harvests" the necessary energy from walking motions.



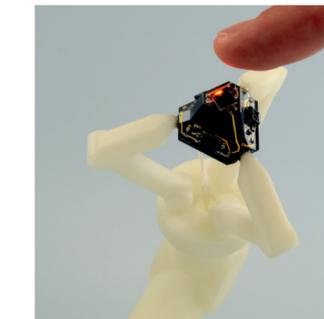
Diagnostics

We transfer testing procedures from the lab to mobile devices to automate complex process sequences like cell lysis, DNA extraction, and the detection of genes and proteins. This enables doctors to determine clinically relevant parameters at the point of care.



Industrial Internet

We refine our own sensor solutions into embedded systems and cyber-physical systems, which can then be integrated into production plants or into the products under production. They make processes more effective and products more intelligent.



Individualized Products with Generative Manufacturing Techniques

Generative manufacturing techniques enable us to produce individualized products without expensive tools, even if you just need a single part. As a basis, we use high-precision 3D printing techniques and the established processes of MID technology. Since 3D printing is already capable of achieving layer thicknesses in the micrometer range, the techniques are also suitable for micro-components and minute details. In addition, rapid tooling techniques allow us to produce prototypes that match the quality of genuine parts.



Your success is the measure of our success. Contact us!

The Executive Board of Hahn-Schickard

From left: Prof. Dr. André Zimmermann, Prof. Dr. Roland Zengerle, Prof. Dr. Alfons Dehè and Prof. Dr. Yiannos Manoli,



»We consider ourselves very fortunate to have found such a competent and trustworthy partner for development and production as Hahn-Schickard: The employees are innovative and reliable and have a great appreciation of quality.«

Dr. Wolfgang Spreitzer

Executive Board Member of Gruner AG



»The quest to find innovative solutions that fill our partners and customers with enthusiasm is my daily motivation. I enjoy working in a team developing innovations that will have a lasting impact on diagnostics, therapy, and prevention.«

Dr. Ana Homann

Hahn-Schickard Group Leader