



## **FRAUNHOFER IMS**

**INNOVATIONS ON SILICON**

Fraunhofer IMS in Duisburg has more than 25 years experience and proven expertise in microelectronic circuit design and fabrication.

Our silicon solutions can be found in various application areas like satellites, aircrafts, medical implants, automotive, industrial, automation, and consumer electronics.

Full supply chain services provide a seamless path from the first idea through development to production according to highest quality and reliability levels. This includes long term support considering our customers product lifetime requirements.

Beside internal and external state of the art CMOS facilities, Fraunhofer IMS offers solutions based on 250°C high temperature Silicon on Insulator processes, MEMS based sensor integration as well as advanced CMOS post processing options.

### **Fraunhofer Institute for Microelectronic Circuits and Systems IMS**

Finkenstraße 61  
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#### **Head of Business Segment**

Prof. Dr. Rainer Kokozinski

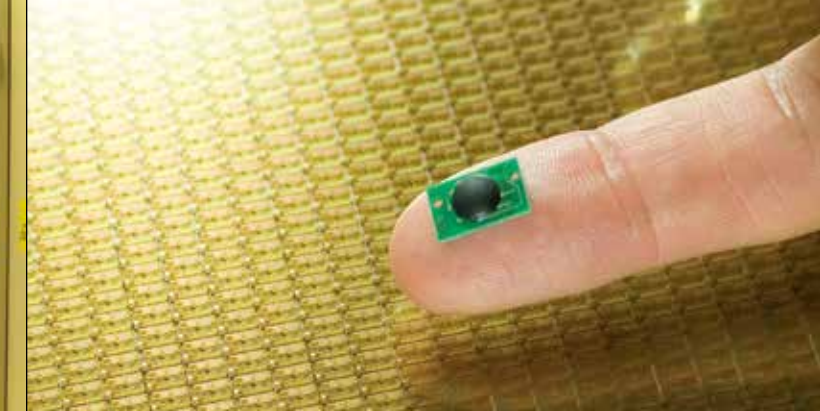
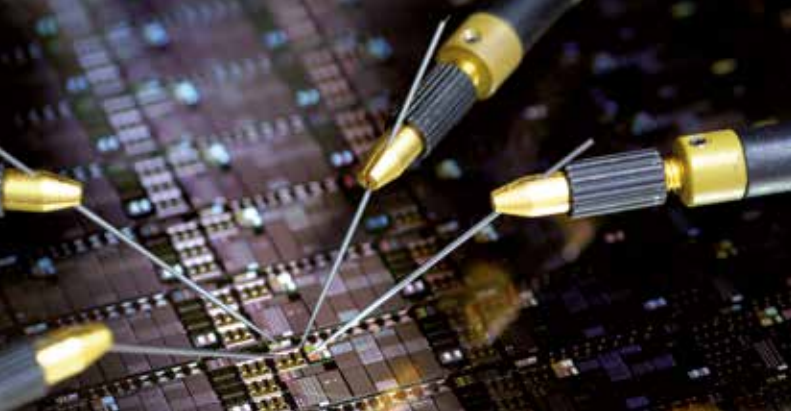
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## **IC DESIGN & ASICs**





## IC DESIGN

Analog, digital and mixed signal integrated circuits are core competences of Fraunhofer IMS. Application specific integrated circuits enable our customers to provide cost efficient and powerful products. We offer the full spectrum from custom to IP-based ASIC solutions.

Full-custom ASICs are designed to accommodate the specific requirements of the customer, providing a highly optimized product. The IP-based ASIC is based on proven generic components, resulting in lower design time and cost. Using a mix and match approach both design styles can be combined to leverage the benefits of both. The close co-operation with our CMOS production lines provides a seamless and efficient path from concept to series production.

Our long term experience in the development and realization of integrated circuits, starting from concept through design, layout, and fabrication to test and product qualification ensures a short development time and a minimized design risk.

## FRAUNHOFER IMS ASIC PROFILE

A broad range of our designs bases on multiple proven generic functions:

### **Sensor Interfaces**

Capacitive, Resistive, Optical, Inductive

### **Analog**

Signal Conditioning, Amplifiers, Filters, Oscillators, References, Transducers

### **Signal Conversion**

ADC, DAC e.g.: Cyclic, SAR, Sigma Delta, Folding, Dual Slope, Flash, Current steering; Segmented

### **Digital Signal Processing**

Dedicated State Machines, Embedded  $\mu$ C

### **Integrated Sensors**

Temperature, Pressure, Optical, Infrared

### **Power Solutions**

PWM Driver, DC / DC, Low Power, Wireless Supply

### **Communication Interfaces**

RFID, SPI, UART, I<sup>2</sup>C, CAN, SSI, Serdes

## FULL SUPPLY CHAIN SERVICE

IMS uses a standardized project control and quality assurance flow tailored for risk control in the ASIC design process to support our first silicon success strategy ISO/TS16949 and DIN EN ISO 9001 accreditations are held.

Cooperation with certification authorities and a proven design flow allow us to develop high reliability designs according to IEC 61508 requirements, utilizing on chip calibration and monitoring mechanisms.

Fraunhofer IMS takes on the responsibility of supplying fully proven and qualified IC solutions on time and at the highest quality.

Our supply chain service includes lifetime support also for extended product cycles. Reference designs are being supplied for over 15 years.