Fraunhofer IMS

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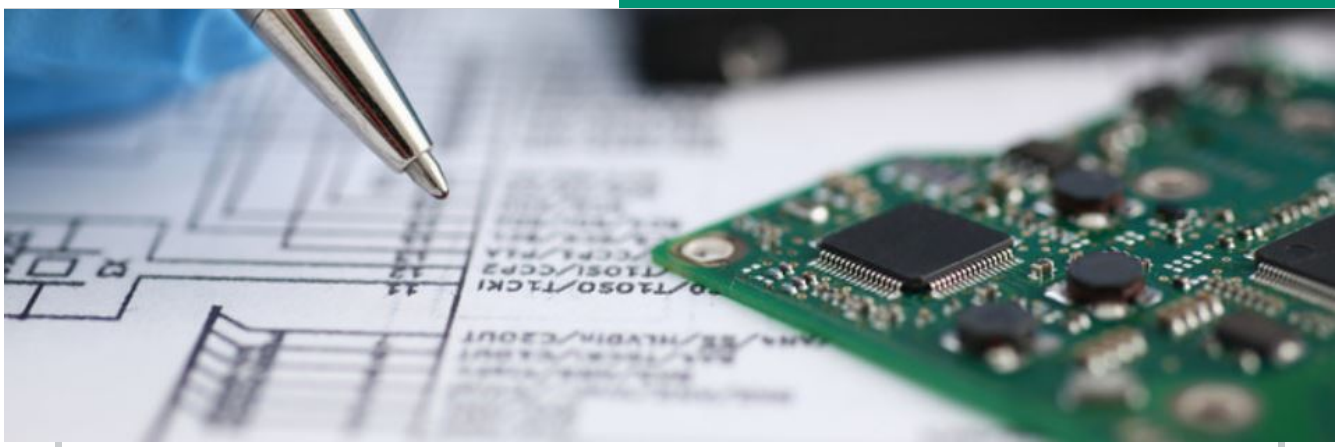
Newsletter of Fraunhofer IMS



High Temperature Electronics

## Smart sensors for use in extremely harsh environments

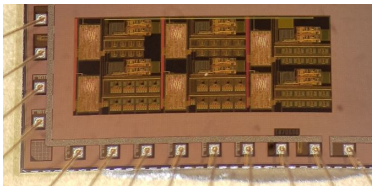

Based on our 0.35µm CMOS technology, Fraunhofer IMS offers development and manufacturing services for integrated circuits for ambient temperatures of up to 300°C. In addition, a technology platform for application-specific intelligent sensor systems for use in extremely harsh environments is currently being developed as part of the Fraunhofer eHarsh lead project. In addition to the high ambient temperatures mentioned, these include pressures of up to 200 bar, high shock and vibration loads as well as influences from dust, particles and aggressive media.

MORE INFO | LIGHTHOUSE PROJECT

ASICs

## Hardware security for Industry 4.0 components

Industrial espionage and sabotage attacks on manufacturing companies are not a new topic but the barriers for an attacker have dropped significantly in times of Industry 4.0 and the networking of many production facilities via Internet. Fraunhofer IMS has developed security architectures based on tamper-proof hardware elements which are combined with powerful processor cores.



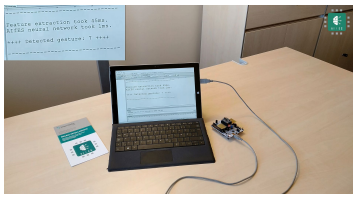
MORE INFO

Electronic Assistance Systems

## Smart Sensors by embedded AI

With a new demonstrator for complex gesture recognition, Fraunhofer IMS shows what is possible with the self-developed embedded AI library AIfES. The demonstrator detects digits written in the air using a 9-axis orientation sensor in combination with an STM32 Cortex M4 microcontroller. All calculations, such as the feature extraction and the neural network based on the AIfES library, are done on the microcontroller. The results of the gesture recognition are transmitted and displayed on a PC via UART . AIfES can easily be integrated into any development project as a library.

Furthermore, Fraunhofer IMS is a consortium partner in the project "CareFul KI", which is funded by the Federal Ministry for Economic Affairs and Energy, in the competition phase as part of the innovation contest "Artificial Intelligence as driver of economically relevant ecosystems". "CareFul KI" has been selected together with a 34 other applicants out of a total of over 130 applications. The project aims to create a AI platform for health, care and social inclusion as an ecosystem that will enable the application and use of AI by SMEs in the healthcare sector.



MORE INFO VIDEO

# Events | Fairs

May 7th – 8th, 2019 at the Fraunhofer-inHaus-Center, Duisburg.

## 9th Fraunhofer IMS Workshop CMOS Imaging

CMOS IMAGING
SEEING MORE THAN JUST PHOTONS

REGISTER NOW!

After a series of very successful workshops since 2002 we are happy to announce our 9th workshop on CMOS Imaging, a forum for the European industry and academia to meet and exchange the latest developments in CMOS based imaging technology. 15 presentations of excellent speakers stand for the high quality level of the event.

This year’s key topics are 3D imaging and LiDAR technologies, detectors for space, quantum imaging,

and new trends in CMOS imaging, among others.

CMOS IMAGING - PROGRAM

## Sensor + Test 2019

SENSOR+TEST
DIE MESSTECHNIK - MESSE
The Measurement Fair
Nürnberg, Germany
25. – 27.6.2019

25.06.-27.06.19 in Nuremberg
**Hall 1, booth 1-325**

**At the Sensor + Test we present:**

- Circuit and process developments for CMOS pressure sensors in medical technology
- People Counting with Uncooled IR Imagers (IRFPAs)
- Live demo of the thermal image evaluation camera
- High temperature proximity switch for up to 300 °C
- Inductive linear position sensor for cost-effective absolute and relative position measurement
- Energy-autonomous wireless current sensor for condition monitoring on machines and plants

MORE INFO

## Laser World of Photonics

24.-27.06.19 in Munich
**Hall 2, booth 2-416**

LASER World of PHOTONICS
JUNE 24-27, 2019 | MESSE MÜNCHEN

**At the Laser World of Photonics we present:**

- LiDAR industrial sensor with simultaneous human detection
- Live demonstration CSPADs
- People counting with IR
- Live demo of the thermal image evaluation camera
- Visualization of BackSide Illuminated (BSI) sensor technology

MORE INFO

## Kontakt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