



INCA

THE INTELLIGENT CAMERA

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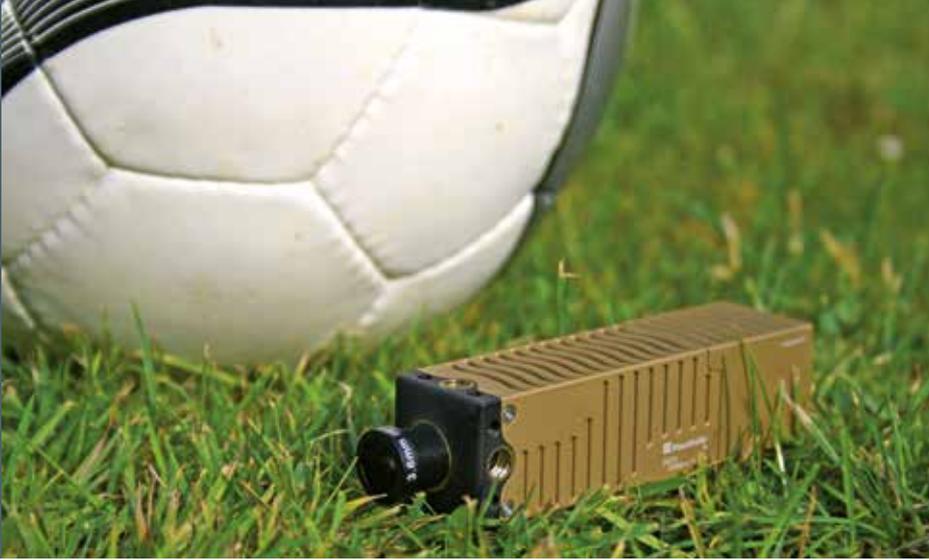
The Evolution of Digital Camera Systems

Fraunhofer IIS is presenting a new generation of camera systems for digital video broadcasting and professional productions. The INCA camera enables the user to create HD video content with one of the smallest camera systems available today.

The system combines professional image sensors with the latest generation of mobile processors, taking image quality and computing power to an entirely new level. The processor has the capacity to run real-time calibration and real-time correction algorithms and supports camera-based object and pattern recognition.

More than just a Camera

INCA is not just a camera, it is an image processing platform offering flexible software and hardware architectures. The hardware provides the full range of connectivity, including an HDMI or Ethernet interface, but also professional interfaces are possible, like HD-SDI. Integrated sensors, like the accelerometer, gyroscope, compass, temperature sensor, and barometer provide additional information. More sensors can be connected via the integrated Bluetooth interface. The platform is running an Android OS with all the advantages of a modern operating system. Consumers can use existing infrastructures and rely on a stable and proven system with a multitude of available applications. To customize the camera with special applications is quick and easy.



Technical Data

- Powerful SoC processor
- Full HD image sensor
- Flexible interfaces (e.g. HD-SDI, HDMI, Ethernet, USB, WiFi, 3G, 4G)
- Integrated H.264 HighProfile, Level 4.1 compression
- Running Android OS
- Small size (approx. 20mm x 20mm x 80mm, depending on customer)
- Very low power consumption (< 4W)
- Wireless transmission of video, audio and additional data
- Cooperative: multiple cameras communicate, share and distribute information
- Different sensors for different tasks

Applications

- Surveillance
- Machine vision
- Drone camera
- High quality video recording
- Home automation
- Automotive camera with object recognition

The integrated processing power opens up new fields of applications:

- Object and pattern recognition
- Realtime calibration
- Metadata generation

INCA offers the user options that go beyond mere image capturing.

In addition to live transmission in full HD, the INCA architecture provides new information about every picture taken. INCA uses integrated sensors to record metadata such as GPS position, acceleration, and temperature and analyzes the data to give the user a better idea of their surroundings.

INCA can withstand sand, dust, cold, and debris when being used as a helmet camera by ski jumpers, mountain bikers, or in other extreme sports. In addition to athletic and event broadcasts, other potential areas of application include animal movies and nature shows, as well as expeditions and adventure travels, where such additional

data will provide invaluable information. Furthermore, the intelligent camera can be connected easily to external systems such as a chest strap to measure heart rates. INCA is compatible with SHORE™ facial recognition software from Fraunhofer IIS, opening up completely new perspectives for image interaction.

For more information, please visit:

WWW.IIS.FRAUNHOFER.DE/INCA