

## Prophesee introduces the first Event-Based Vision sensor in an industry-standard, cost-efficient package

*Company's Metavision® sensor is first mass production chip to allow commercial-scale adoption of breakthrough machine vision technology in Industry 4.0 and Industrial IoT*

PARIS – September 25, 2019 – Prophesee SA, inventor of the most advanced neuromorphic vision systems, today introduced **the first industry-standard packaged chip that leverages Event-Based Vision technology**, a significant advancement over traditional frame-based vision approaches.

Under development for the past five years and commercially tested by several customers, this third-generation version houses a Prophesee-enabled VGA-resolution sensor and represents the industry's first implementation of Event-Based Vision technology in a commercially-viable, industry standard package.

This new packaged version of Prophesee's Metavision® sensor is aimed at developers of cameras to enable next-generation vision in **industrial automation and IoT systems** such as robots, inspection equipment, monitoring and surveillance devices. It leverages Prophesee's use of neuromorphic vision technology to offer highly efficient machine vision capabilities for a variety of use models,

including **ultra high-speed part counting, vibration measurement and monitoring or kinematic monitoring for predictive maintenance**. It allows for **unprecedented speed, dynamic range, data volume, and power efficiency**.

*“This is a major milestone for Prophesee and underscores the progress in commercializing our pioneering Event-Based Vision sensing technology. After several years of testing and prototyping, we can now offer product developers an off-the-shelf means to take advantage of the benefits of our machine vision inventions that move the industry out of the traditional frame-based paradigm for image capture,”* said Luca Verre, co-founder and CEO of Prophesee

### **Making Event-Based Vision a commercial reality**

In Prophesee Metavision® sensors, each pixel is independent and asynchronous. Each pixel **only activates itself if it senses a change** in the scene, a movement - **an event**. This proprietary Event-Based approach allows for major reductions of power, latency and data processing requirements imposed by traditional frame-based systems.

It enables sensors to achieve much **higher dynamic ranges** than commonly associated with high-speed vision. And it allows **cost-efficient** sensors and systems to record events that would otherwise require conventional cameras to run at **10,000 images/second and more**.

The sensor can be used by system developers to improve and in some cases create whole new industrial uses, including accelerating **quality assessment** on production lines; **positioning, sensing** and **movement guidance** for robots to enable better human collaboration; and **equipment monitoring** (e.g. caused by vibration, kinetic deviations) making the system an asset for **predictive maintenance** and reduced machine downtime.

Performance highlights include:

**40-200  $\mu$ s**

Ultra-Low Latency

**66 Meps**

Max. Bandwidth

**>120 dB**

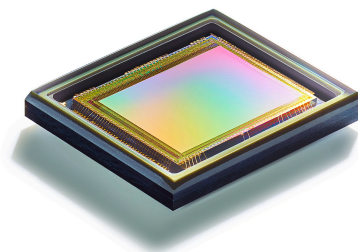
Wide Dynamic Range

**0.04lux**

Low-Light Cut-Off

**<1mHz**

Background Noise Activity



## Robust Toolkit Support

The sensor is supported by a robust development environment that includes a comprehensive software development kit (SDK), a full set of drivers, the Prophesee Player tool for recording sequences and visualizing data and access to the Prophesee Online Portal, a detailed knowledge center containing useful resources for developers.

The chip, available in a 13x15 mm mini PBGA package, integrates Prophesee's third generation CMOS Image Sensor (CIS) vision module. It features 640 x 480-pixel resolution with 15 µm pixels in a 3/4" optical format.

It is manufactured in a .18 micron specialized CIS process. The packaging was realized by [Kingpak](#), an expert in CMOS Image Sensor (CIS) micro packaging.

## About Prophesee

Prophesee (formerly Chronocam) is the inventor of the world's most advanced neuromorphic vision systems. The company is developing a breakthrough Event-Based approach to machine vision that allows for significant reductions of power, latency and data processing requirements imposed by traditional frame-based systems.

Prophesee's patented neuromorphic-based sensors and algorithms are based on how the human eye and brain work to dramatically improve efficiency in areas such as autonomous vehicles, industrial automation, IoT, security and surveillance, and AR/VR.

Prophesee, based in Paris, with local offices in China, Japan and USA, is driven by a team of 100 visionary engineers, holds more than 50 international patents and is backed by leading international investors including 360 Capital Partners, Supernova Invest, iBionext, Intel Capital, Renault Group, and Robert Bosch Venture Capital.

For more information visit: [www.prophesee.ai](http://www.prophesee.ai)

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