



## Ultra-low power neuromorphic smart camera

### Technology

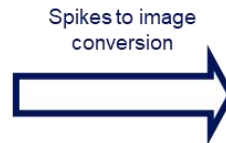
This bio-inspired smart camera has two ultra-low-power technological components:

- an image sensor
- a synaptic circuit accessible to supervised learning on-chip.

Its technology based on spike processing makes it possible to acquire images up to a rate of 30 fps.

IntelliCAM is then a frame-based camera (not event-based).

The synaptic chip provides processing on the sensor with on-chip STDP (Spike-Timing-Dependent Plasticity) learning, which makes it an ideal solution for autonomous embedded systems that operate without interruption (always-on applications).



### Benefits

- Ultra-low power sensor (~30 pW)
- CMOS technology
- Frame-based sensor up to 30 fps
- Can be used as a wake-up camera with higher resolution sensors
- Supervised online and offline learning
- Compatibility with classic computer vision algorithms
- Analog signal processing
- Ultra-low power computing (sub-threshold leakage reduction)

### Applications

Motion detection, eye tracking, wake-up in ultra-low power computer vision :

- IoT
- Infrastructure security
- Industry 4.0
- Smart buildings
- ...



### Keywords

- Camera
- Bio-inspired
- AI
- Low consumption
- Analogic
- CMOS



### Intellectual Property

3 patents filed :

- artificial neuron
- switched synapse
- Sensor



### Development Status

- Proof of concept on 64x64 pixel prototype
- Company sought for co-development of 128x128 pixel prototype
- TRL 4



### Partnership

Search for partnership for license and/or co-development

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