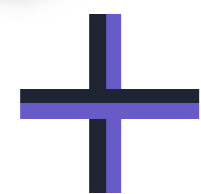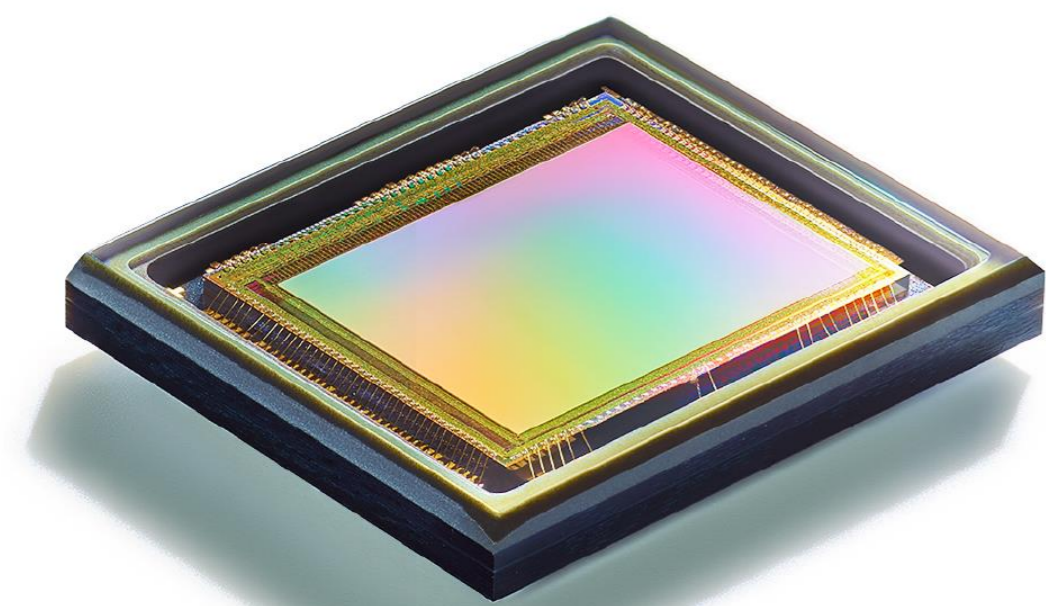PROPHESEE
METAVISION FOR MACHINES

NEUROMORPHIC VISION

+

AI

Each pixel in Metavision® sensor embeds an intelligence logic core, enabling it to **act as a neuron**.
Each pixel activates itself **intelligently and asynchronously** depending on the amount of photons it senses.
A pixel activating itself is called **an event**.

Events are driven by the scene's dynamics, not an arbitrary clock.
The Metavision® sensor **does not have a frame rate**.
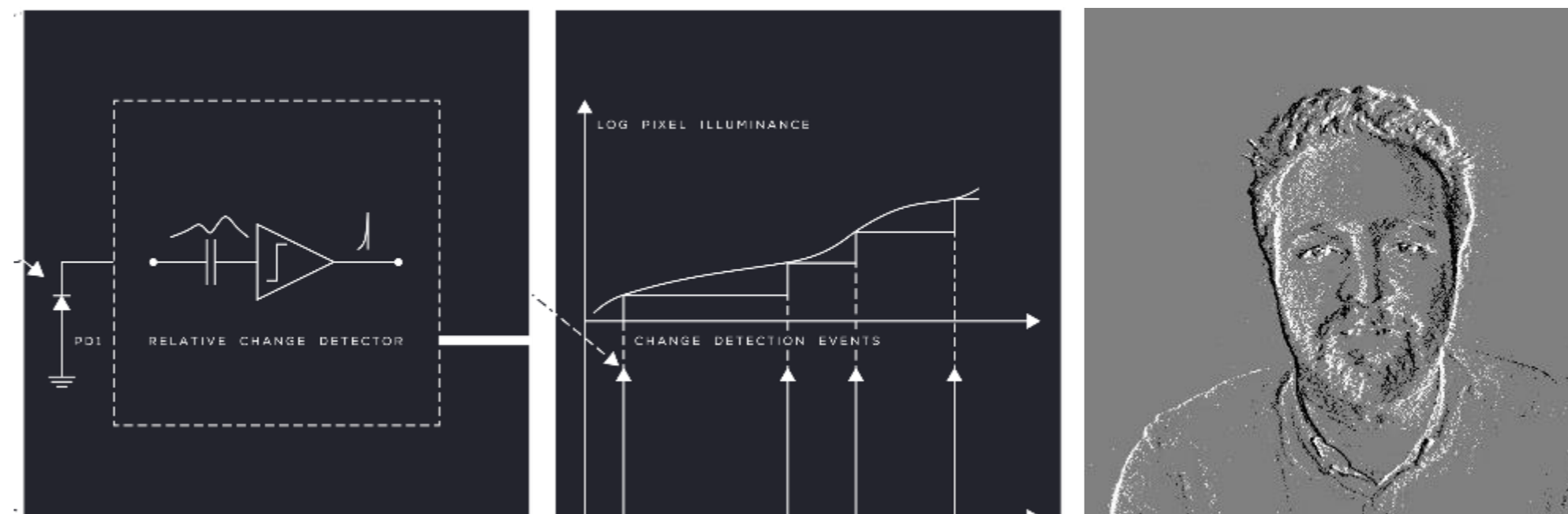
This unlocks extreme time resolution of **1µs**
Frees from the need for **exposure times**
Allows for **124dB HDR** and **40 millilux** low-light cutoff
Generates **10 to 1000x less data**

Metavision® sensor when used in combination with a **VCSEL projector** results in a novel **Structured Light 3D** sensor
Other applications are IA/robotics, mobile/wearable, automotive

PROPHESEE

NEXT-GEN NEUROMORPHIC SENSING

HIGH-SPEED DEPTH SENSING
NEUROMORPHIC 3D SENSING
Using events instead of traditional frames, PROPHESEE structured light can deliver high-precision depth map **50x faster** than state of the art structured light, free from blur & noise and in any light conditions.

GLANCE ID
SMOOTHEST AND MOST SECURE UNLOCKS
Experience the fastest, most reliable face unlocks, in every condition. It not only relies on static images but also **uses microsecond event-pixels to detect your unique micro-motions – like humans do** – for next-level biometric security.

VIRTUAL CHATROOM
YOUR VIRTUAL SELF
Create your own realistic personal avatar to project your virtual-self into a meeting or live event.
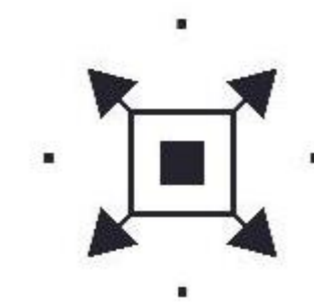
3D AWARENESS
MAP YOUR SURROUNDINGS
Using state of the art Event-Based SLAM algorithms combined with depth sensing, create highly accurate maps and localize yourself in it, simply by moving around.

TOUCHLESS GESTURE CONTROL
AIR CONTROL
Instant hand gesture recognition for ultra smooth touch-free navigation.

IMMERSIVE AR/VR
NO LAG
Experience the full potential of augmented and virtual reality.

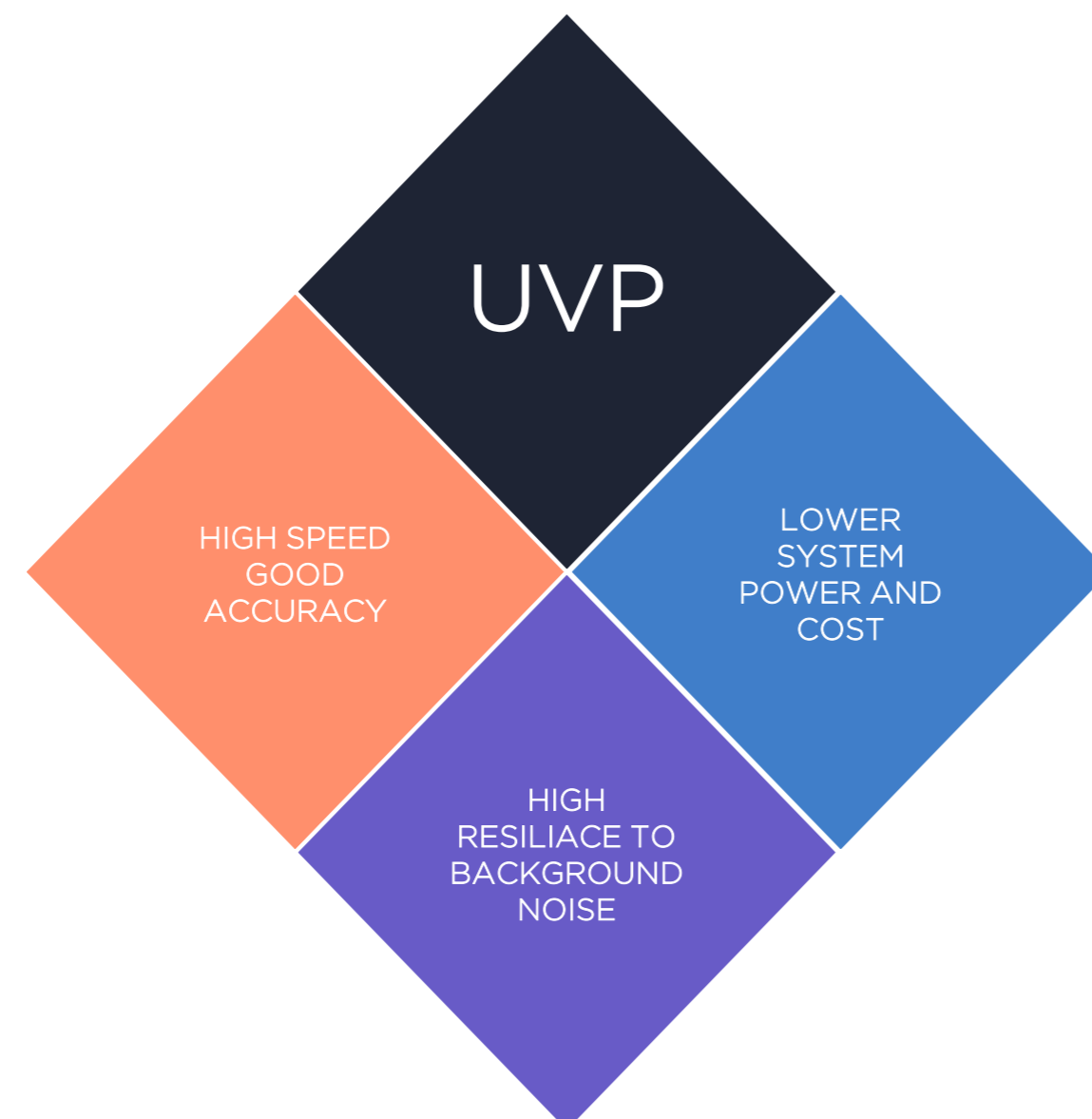PROPHESEE

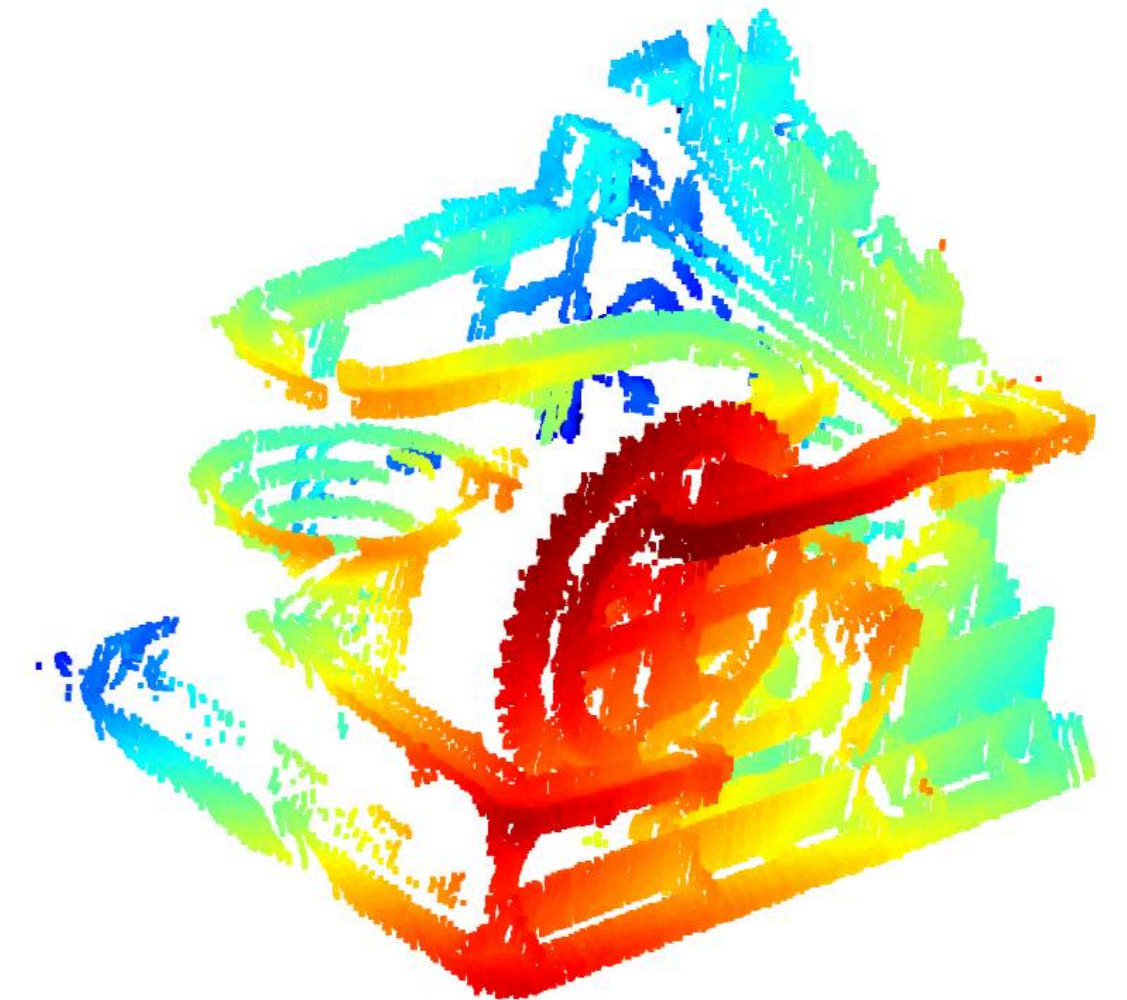# EVENT-BASED STRUCTURED LIGHT

HIGH SPEED
DEPTH SENSING
Event-based structured light

Today's state of the art depth-sensing techniques impose a **trade-off between exposure time, accuracy and robustness.**
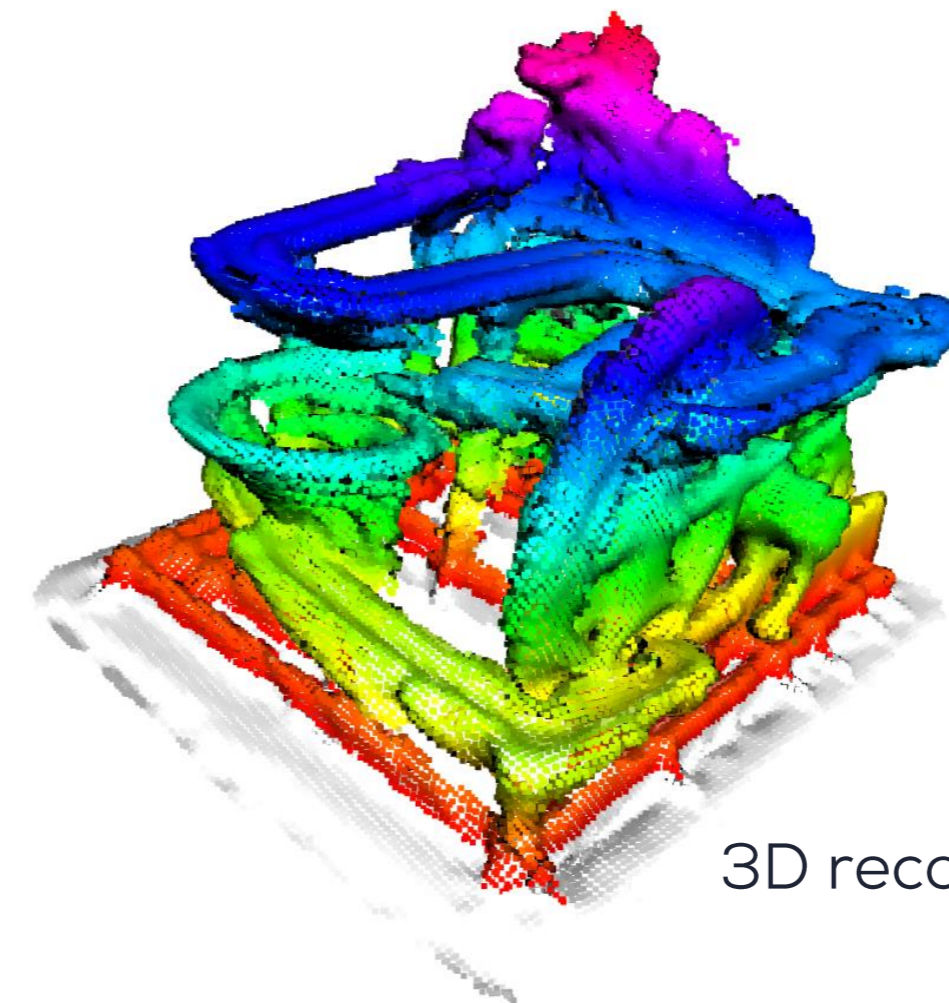
By coupling an IR projector with Metavision® sensor, the **fast response time of each independent pixel allows for temporal pattern identification and extraction directly inside the sensor.**

UVP

HIGH SPEED GOOD ACCURACY

LOWER SYSTEM POWER AND COST

HIGH RESILIACE TO BACKGROUND NOISE

3D point cloud of a face

3D point cloud of a marble circuit

3D reconstruction using kinect fusion

PROPHESEE

CONTACT US

slavizzari@prophesee.ai

If you are a provider of projecting technology, with preference towards VCSEL and you want to understand more and challenges and the needs

If you are a user of 3D point cloud/depth map and you want to know more about EB-SL

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