

Event Camera 3D Machine Vision

(Patent No. 7371443)

A new solution for 3D machine vision that combines an event camera and patterned light

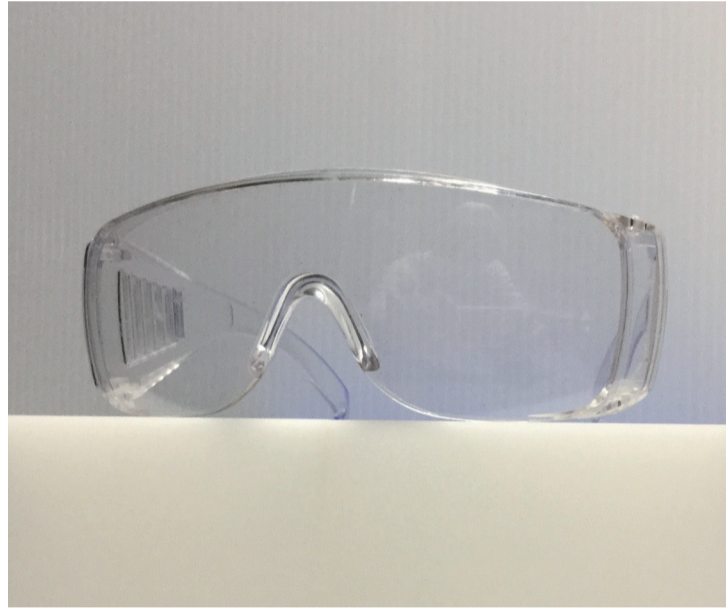
- Enables 3D measurement of target materials, which was previously difficult with non-contact measurement*
- Eliminates the need to adjust for each measurement target, enabling multiple parts to be measured at once

*Please tell us about any issues you have in automating processes for transparent, dark, or metallic parts

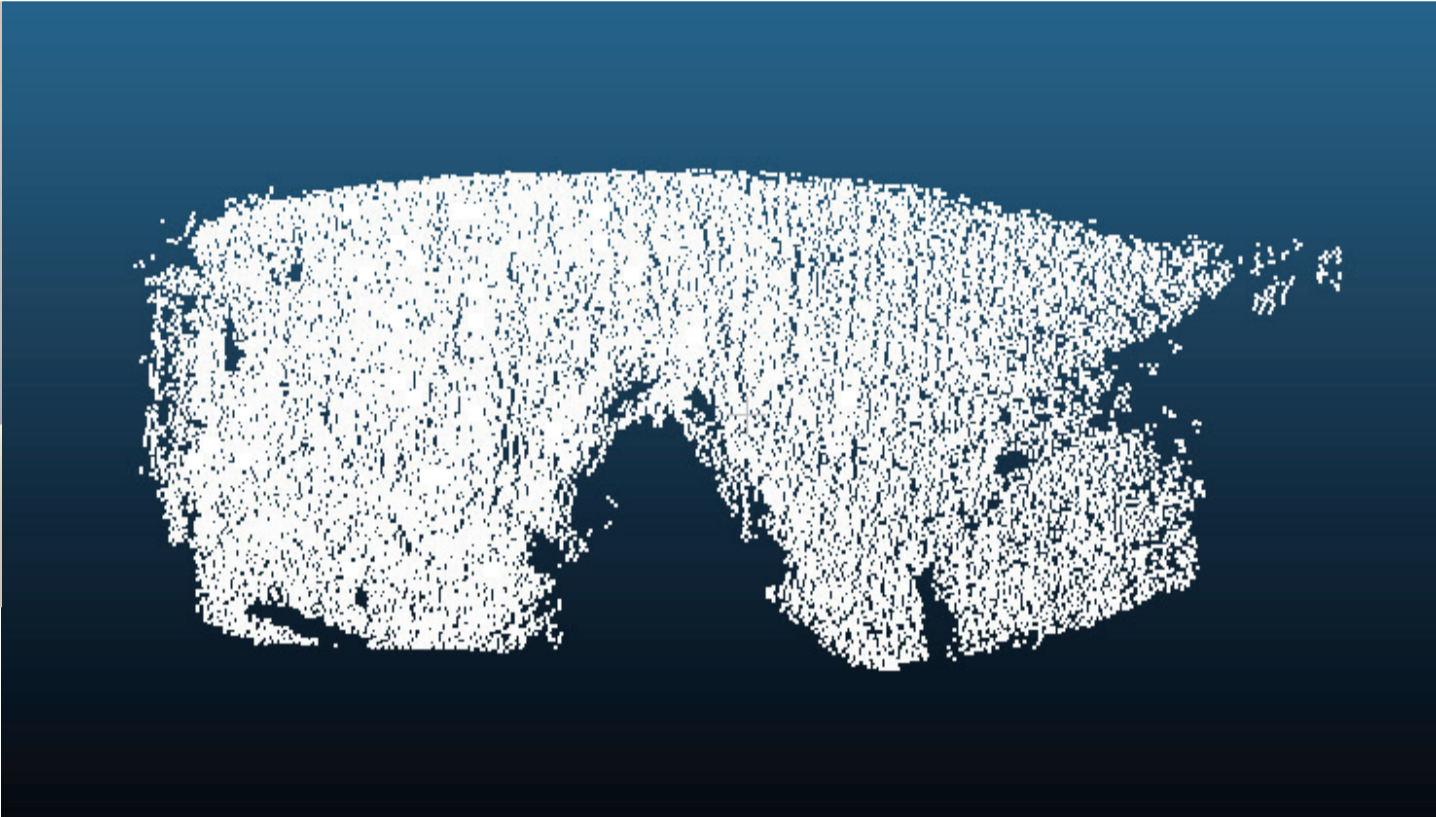
Automatic picking of transparent parts

An event camera that captures with no omissions even the tiny changes of patterned light is used for the stable 3D measurement of transparent parts

High-accuracy measurement using an originally developed 3D measurement algorithm



Safety glasses/
transparent

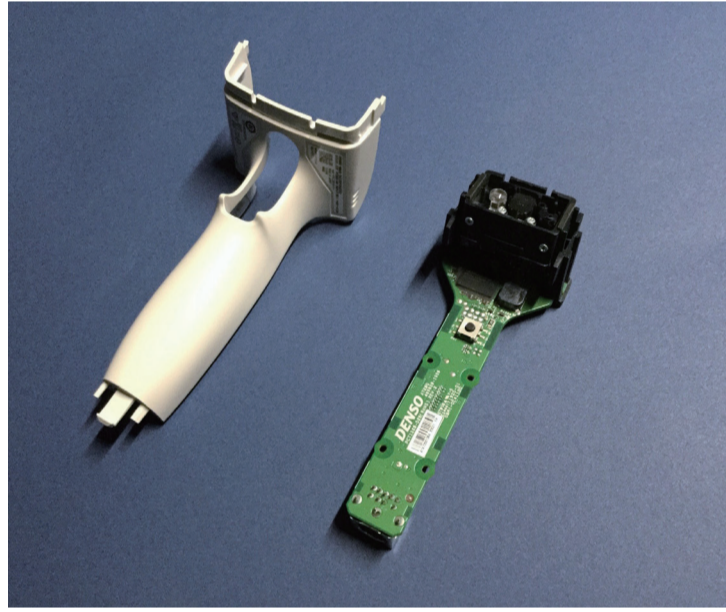


Capable of measuring the shape of the lens (transparent material)

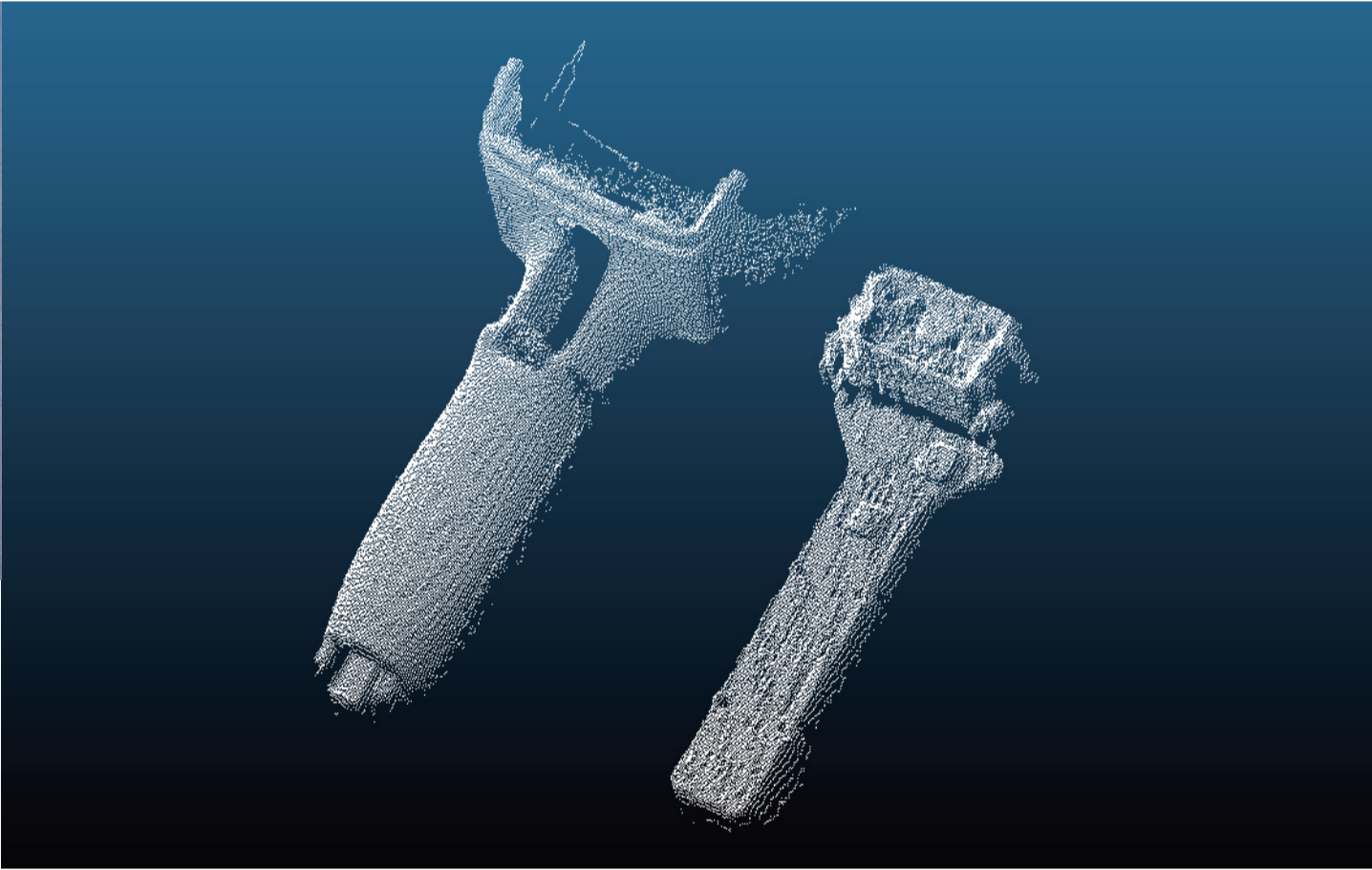
Kitting of various part types and mixed color parts

A new measurement method is adopted that is not affected by differences in reflected light intensity due to part colors and materials

A single sensor can simultaneously measure different part types and mixed color parts



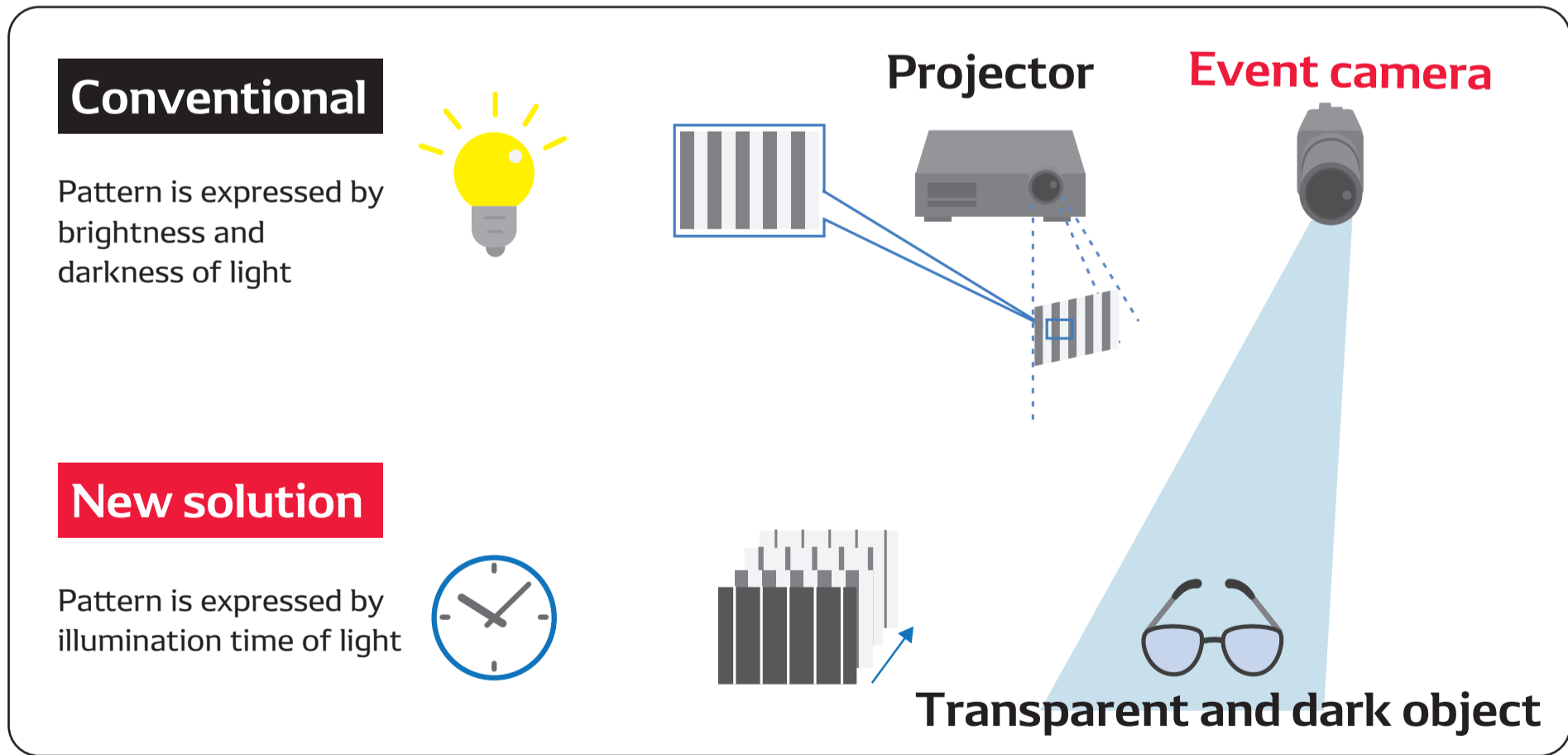
POS scanner/
mixed colors



Capable of measuring the shape of white and black parts (mixed colors)

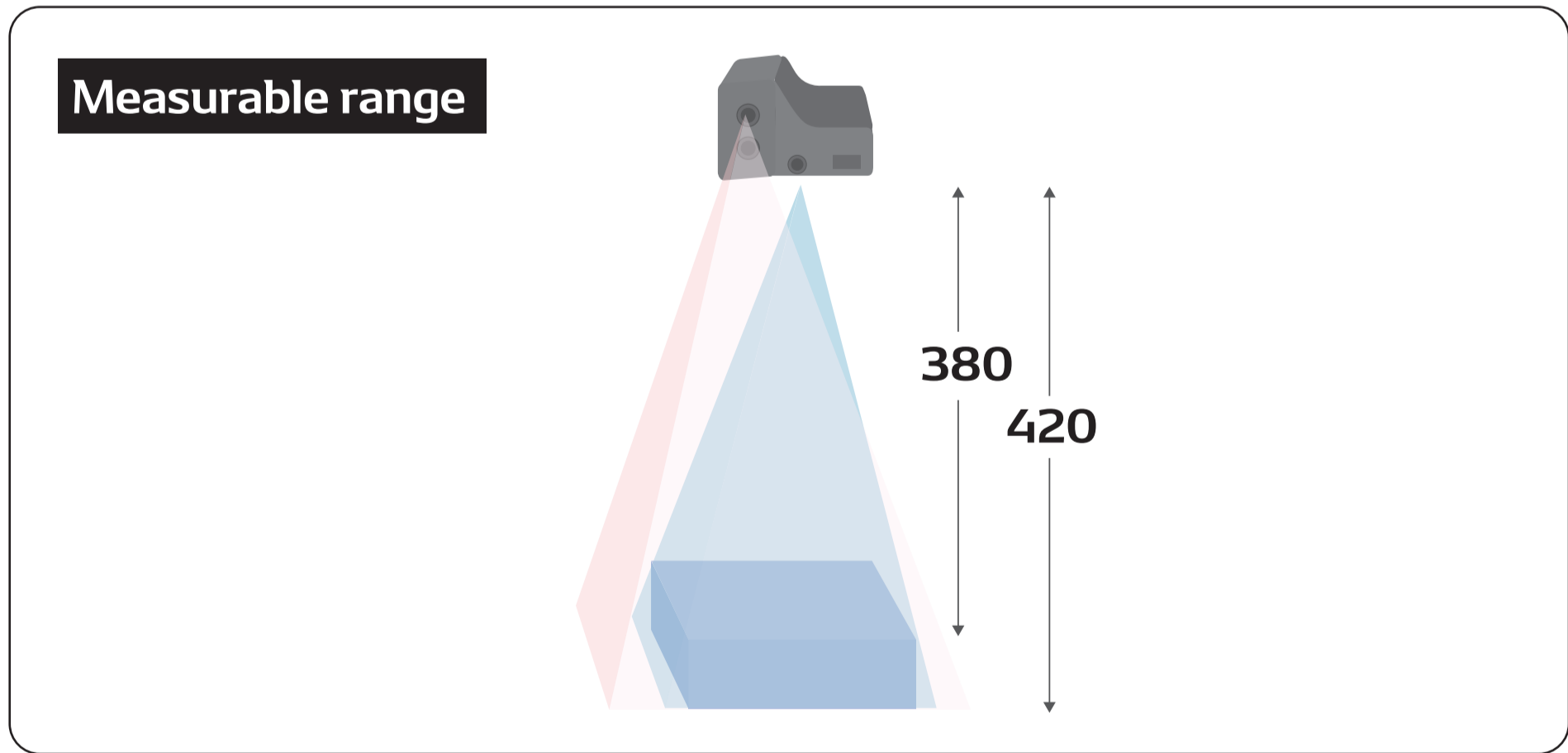
Measurement principle and demo device specifications

Measurement principle



The light illumination time is detected by the event camera instead of the brightness and darkness, enabling measurement even when the amount of reflected light is insufficient.

demo device specifications



1	Measurable distance	400±20 mm
2	Measurable range	H: 350mm , V: 200mm
3	Measurement resolution	X,Y : ± 0.2mm , Z :± 0.8mm

Reference: What is an event camera?

In contrast to a regular frame camera that detects brightness, this device detects changes in brightness. The characteristics of this camera include a wide dynamic range, high temporal resolution, and low power consumption.

