



PIXCURVE

MAKING IMAGING OR PHOTOGRAPHIC PRODUCTS LIGHTER AND MORE COMPACT

+ WHAT IS PIXCURVE?

PIXCURVE is CEA-Leti's latest curving technology for various optical components. This technology helps significantly reduce optical component size and achieve higher level of performance and compensation for optical aberrations.

Compactness: Up to 60% reduction in lens size in some cases without altering the quality of the image

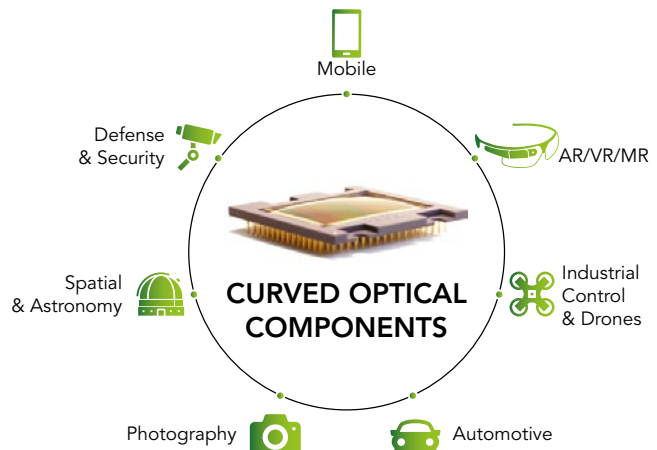
Performance & compensation for optical aberrations:

- Minimizing the vignetting effect
- Enhancing field of view
- Enhancing luminosity

PIXCURVE is easy-to-implement for image sensor manufacturers, and allows integrators to fabricate more compact and higher quality cameras.

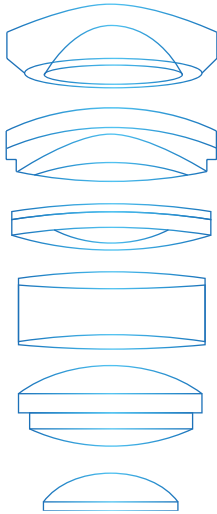
+ APPLICATIONS

CEA-Leti's technology can be adapted to curve various optical components—2D & 3D imagers, IR sensors, Microdisplays—for:

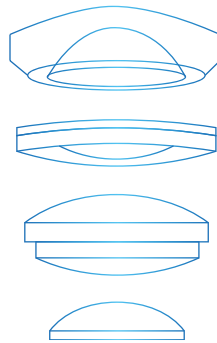


+ WHAT'S NEW?

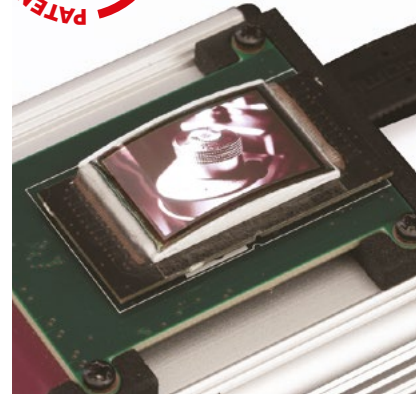
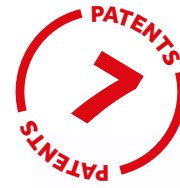
CEA-Leti worked on different shapes for curved image sensors and microdisplays including spherical, cylindrical or free-form. Tunable curvature technology is also being developed for adjustable shapes.



Regular flat lenses solution



Lenses design with PIXCURVE



+ WHAT'S NEXT?

CEA-Leti is currently working on:

- Wafer level curvature technologies for high-volume applications
- Tunable curvature for disruptive optical applications
- Curved microdisplays
- Optical designs dedicated to curved sensors

The institute is also partnering with industrial companies to help establish supply-chain solutions.

INTERESTED IN THIS TECHNOLOGY?

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PUBLICATIONS:

- Gaschet, C. et al, "Curved sensors: a new era for imaging", Optics Express 2018.
- Chambion, B. et al, "Curved Full-Frame CMOS Sensor: Impact on Electro-Optical Performances", ESTC 2018
- Gaschet, C. et al, "Curved sensors for compact high-resolution wide field designs", Proceedings Volume 1037603, 2017 SPIE.

Leti, technology research institute

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