

PIXCURVE

MAKING CAMERAS LIGHTER, BRIGHTER 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

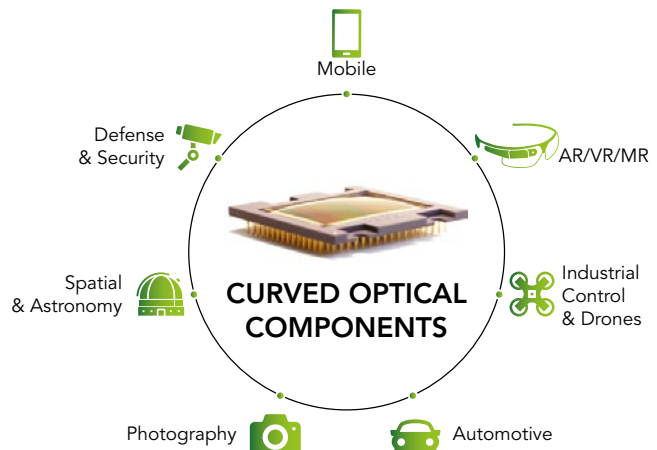
Performance & compensation for optical aberrations:

- 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.

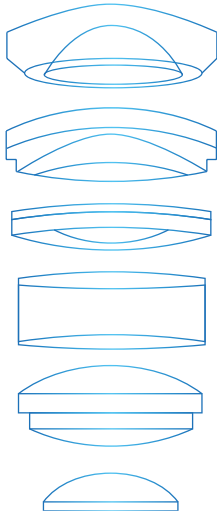
+ APPLICATIONS

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

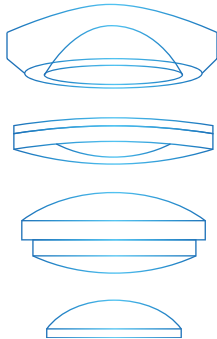


+ WHAT'S NEW?

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?

Sales contact:
Pierre Castelein
pierre.castelein@cea.fr
 +33 438 789 391

PUBLICATIONS:

- Chambion & Al / Curved Full-Frame CMOS Sensor: Impact on Electro-Optical Performances / ESTC 2018
- Chambion & Al / Collective curved CMOS sensor process: application for high-resolution optical design and assembly challenges / ECTC 2019
- Zuber & Al / Tolerancing and characterization of curved image sensor systems / Applied Optics 2020

CEA-Leti, technology research institute

Commissariat à l'énergie atomique et aux énergies alternatives
 Minatec Campus | 17 avenue des Martyrs | 38054 Grenoble Cedex 9 | France
www.leti-cea.com

