

- Energetically autonomous light intensity modulator using liquid crystals
- Response in milliseconds with spatial resolution, only the illuminated area switches



KEYWORDS

- Smart window
- Liquid crystal
- Photovoltaic

PATENTS

- EP17186647
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INVENTORS

- Thomas HEISER et al.
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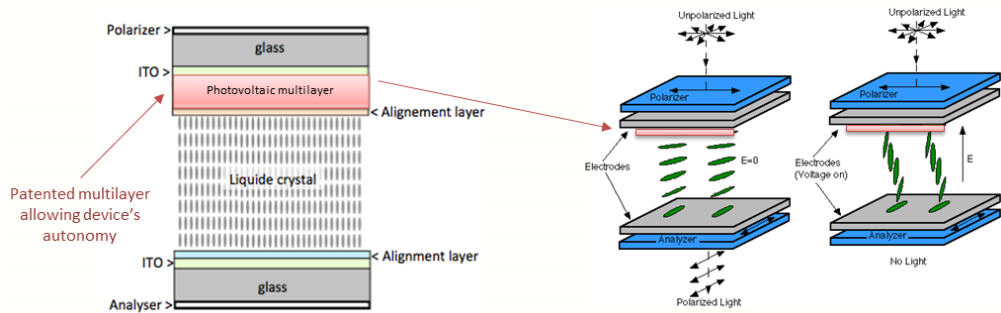
TECHNO-STATUS

Under Development

- 334 000 euros ongoing Conectus investment for scale up
- planned project end date: July 2019
- open for co-conception with an industrial partner

TECHNOLOGY

- Using semiconductors as photon-absorbing layer together with appropriate interfacial layers allowing the development of an efficient and energetically autonomous device called Photovoltaic Spatial Light Modulator (PLSM):



APPLICATIONS

- As smart glass/window in various industrial sectors
 - Road safety helmets
 - Tactical equipment
 - Industrial safety
 - Architecture
 - AR/VR glasses
 - Automotive industry
 - Sports eyewear



INNOVATION ADVANTAGES

- Autonomous device
 - Avoiding power supply dependency
 - The device is driven by light intensity
 - 40% absolute light reduction, e.g. [60%-20%] or [45%-5%]
- Short time response
 - Milliseconds
- Low-cost process and large surface compatibility
 - Room temperature and printing technique
 - Glass or plastic/flexible support
- Spatial resolution:
 - The drop in transparency is restricted to areas exposed to sunlight while shaded areas remain transparent



DEVELOPMENT STATUS

- Proof of concept has been done on a laboratory prototype (1x1 cm²)
 - Scale up is ongoing (10x10 cm²)

