

From invention to innovation

## APPLICATIONS

- OLED (PMOLED) display
- Li-Fi transmitter
- Optical fiber networks
- Fast optoelectronic components

## DEVELOPMENT PHASE

First POC with measurements of optical time response below 10ns, electrical time response below 1ns and current density up to 6 kA/cm<sup>2</sup>.

## INTELLECTUAL PROPERTY

Patent application

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## HIGH-SPEED MICRO ORGANIC OPTO-ELECTRONIC DEVICE

This invention deals with the design of a new type of electrodes that allows high-speed OLED with time response as low as 220ps, and better than state-of-the-art high density current (~6 kA/cm<sup>2</sup>) and luminance as high as 4. 10<sup>6</sup> Cd/m<sup>2</sup>

Organic electronics ■ Micro-electronics ■ Opto-electronics ■  
Micro OLED ■ Display ■ Optical transmission

## PRESENTATION

This invention results from the combination of micro-organic electronic (OLED) and microwave electronics. It drastically enhances the electrical time response of OLED. As a result, OLEDs can sustain 1ns electrical pulse excitation with high-current density and deliver intense light emission (4.0 10<sup>6</sup> Cd/m<sup>2</sup>). High-speed organic optoelectronic combine the fast response of optoelectronics and the simplicity of fabrication, which opens numerous applications :

- Fast optoelectronics applications such as LiFi communications, with an enhanced transmission debit rate (>>100Mbit/s).
- Display applications with an increase of the resolution limit of Passive Matrix OLED (PMOLED) display by reaching a much higher pixel's peak luminance.



Source : [Oled-info](#)

## COMPETITIVE ADVANTAGES

- Fast OLED
- Ultra-short light pulses <10 ns,
- High current density (> 6 kA/cm<sup>2</sup>)
- High energy efficiency