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HYBTRONICS MICROSYSTEMS
www.hybtronics.com

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www.fagorautomation.com

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www.adama.tips

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FRAUNHOFER IWU
www.iwu.fraunhofer.de

Ceit-IK4
www.ceit.es

SNELLOPTICS
www.snelloptics.com

FLOIM

Flexible Optical Injection Moulding of optoelectronic devices

FLOIM - MCG 310119

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www.floimproject.eu

FLOIM

Flexible Optical Injection Moulding of optoelectronic devices

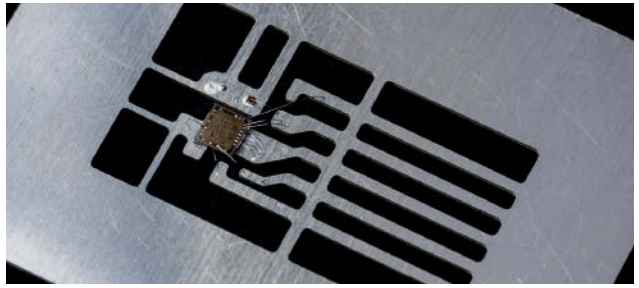
www.floimproject.eu

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 820661.

FLOIM

Flexible Optical Injection Moulding of optoelectronic devices

FLOIM concerns a new, automatized manufacturing technology for the production of optoelectronic components and the assembly of the corresponding optical system, based on the use of thermoplastic materials and the embedding of all the components into a compact and robust unique device. This technology permits to overcome current manufacturing limitations and magnifies the design possibilities.
The production chain for optoelectronic device manufacturing is inherited from microelectronics, which is not appropriate for novel, low cost, high efficiency photonic devices.



Project Duration:

42 months

Starting project date:

1st of September, 2018

www.floimproject.eu

OBJECTIVES AND ADVANTAGES

FLOIM will pursue the following technical goals:

- Novel manufacturing chains for high quality integrated optical devices.
- Design new manufacturing equipment for functional optical embedding.
- Custom optical functions through mould insert machining and structuring.
- Sustainable production of eco-friendly optoelectronics.
- Disruptive applications.

Miniaturized, integrated photonic devices are driving an increasing number of applications, while facing pressure to lower cost and increase flexibility.
Improving the cost efficiency, flexibility and environmental footprint of the complete integrated optoelectronics workflow, can provide European industry with a key tool for excelling in advanced applications and differentiating their products, while keeping production, innovation capacity and key Intellectual Property in Europe.

MAIN INNOVATIONS

The innovations to be generated during the project have been identified and categorized into two categories:

- Product and Process design principles:
  - Optics design for highly integrated optical integration and embedding.
  - High quality optical injection moulding.
- Manufacturing Platform:
  - Integrated optical embedding technology, for High-precision injection moulding using modular and reconfigurable mould with quick insert exchange, and optical function reconfiguration by selective restructuring of diffractive insert nanostructures.
  - In line quality assessment, full quality evaluation and zero defect goal.
  - Compatible continuous part handling, control software system and mechatronic peripherals.