



Expression of Interest

# Direct Printing of new (Bio-) Sensors

Acronym: **DEPOSE**

Presenting Organisation

**SIRRIS**

**Collective Center of Belgian  
Technological Industry**





## Project Details

Project coordinator	
Other applicants	
Sector	
Call of Interest	<input type="checkbox"/> CORNET <input type="checkbox"/> EraSME
Proposal summary:	
Advantages for SMEs, trade or industry:	
Profile of partners sought:	

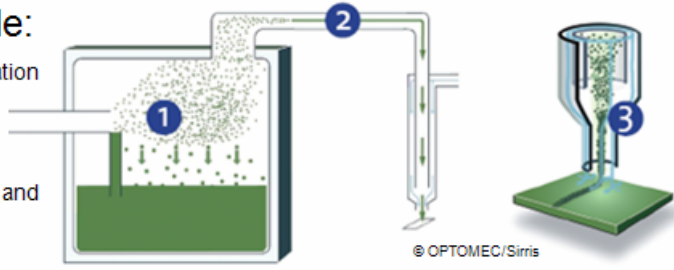
## Expression of Interest

# New printing techniques and materials for new (bio-)sensors

with a focus on **Aerosol Jet Printing** technology

AJP principle:

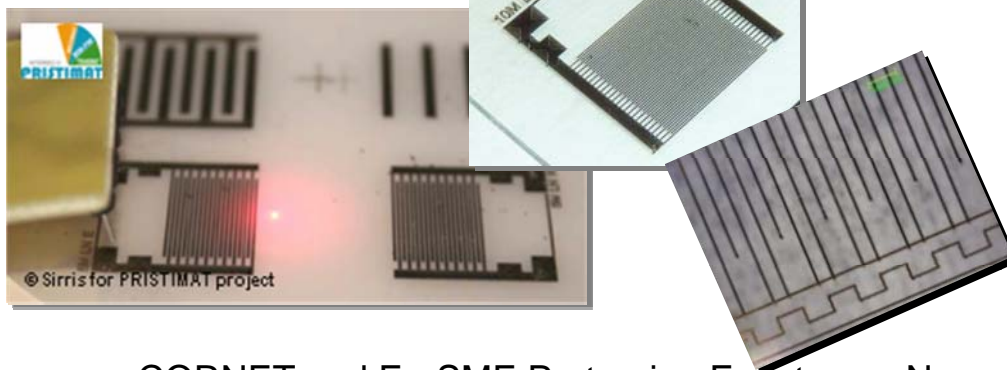
- (1) Aerosol origination
  - Ultrasonic
  - Pneumatic
- (2) Transportation
- (3) Jet collimation and deposition



**Key- features** (Optomec® AJ300CE):

- **High resolution: 10 μm** minimum feature size
- **Maskless** process: high flexibility and cost efficiency
- Large range of available “inks”: **conductive, dielectrics, semi-conductive,** and even **biologic** materials
- Compatible with **low Tg substrates** (laser sintering)
- Compatible with **flat, flexible and 3D** substrates

30μm-linewidth Aerosol Jet Printed SAW sensor



## Major objectives of the project

Printing = paradigm shift:

- Flexibility and versatility
- Large range of processable materials (deposited / substrate)

**To develop new (aerosol jet) printed, low-cost (bio-)sensors**

## Benefit for participating SMEs/Associations

To develop a **complementary “non-CMOS” approach** based on innovative and affordable printing techniques (e.g. AJP)

Possible **integration** with classical and/or non clean-room-compatible **processes and materials**

Partnership sought

**Looking for partners in the application field**

(more specifically in the integrated (bio-)sensor domain):

- to drive the development on the basis of **relevant applications and industrial needs** to focus on,
- to **design, dimension, and/or simulate** sensors to be developed
- to address **signal processing** aspects
- ...



## Contact details



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Expression of Interest

# 3D-Printing of bio-polymers

Acronym: 3D-BIOPRINT

Presenting Organisation

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**Collective Center of Belgian  
Technological Industry**



## Project « 3D-BioPrint »

### Basic idea:

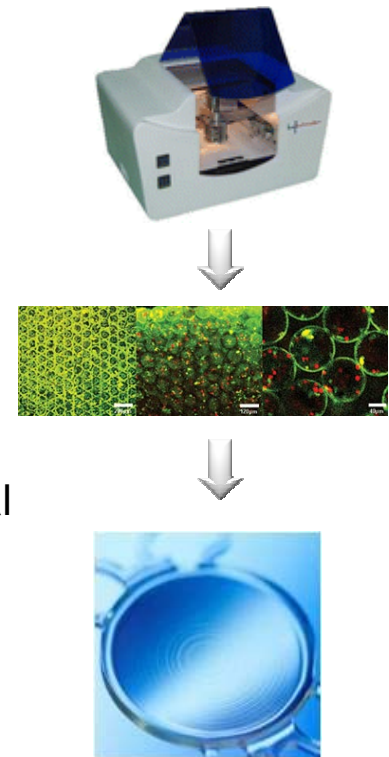
- 3D Printing of bio-polymers (PMMA, PLLA, ...) on hydrogel scaffolds
- Possible cell deposition on structures for improved acceptance of the medical device (lenses)
- Possible multi-material 3D Printing
- Integration of complex geometries in order to reduce part assemblies
- In vitro testing & biocompatibility testing of manufactured lenses

### Established consortium (core partners):

- CDRSP (Centre for Rapid and Sustainable Product Development) – Portugal
- SIRRIS (Collective centre of the Belgian technological industry) – Belgium
- Physiol (SME) – Belgium

### Desired partners with following competencies:

- Sterilization process
- Bio-Polymeric materials development (bio-degradable and non-degradable)
- Supply chain integration
- In vitro testing
- Metrology (sub-micronic) & mechanical testing



## Contact details



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