



**sirris**

driving industry by technology

**L'Ingénierie**  
**au service de la**  
**Recherche médicale**

# SIRRIS

Institut fédéral de recherche pour l'industrie



Académique ←SIRRIS→ Industrie

## MATERIALS ENGINEERING

Optimising the combination of materials, design and process

## PRODUCTION TECHNOLOGY

Improving production processes and introducing breakthrough technologies

## MECHATRONICS

Integrating more intelligence and performance in machines and products

## ADDITIVE MANUFACTURING

Launching your products ten times faster

## SOFTWARE ENGINEERING & ICT

The art of engineering software & ICT products and use them to innovate

## TECHNOLOGY COACHING

Providing insight into technology portfolio and technology trends

# OVERVIEW



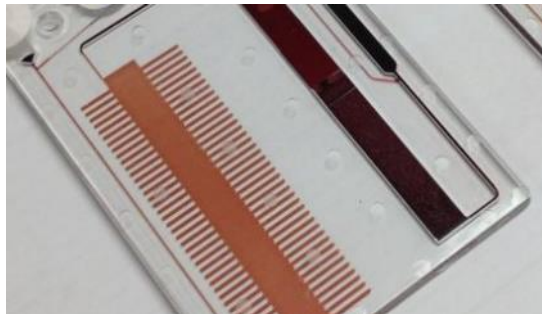
Additive Manufacturing



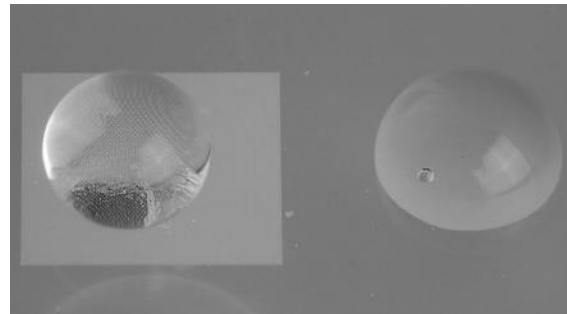
Implant printing



HAP/TCP printing



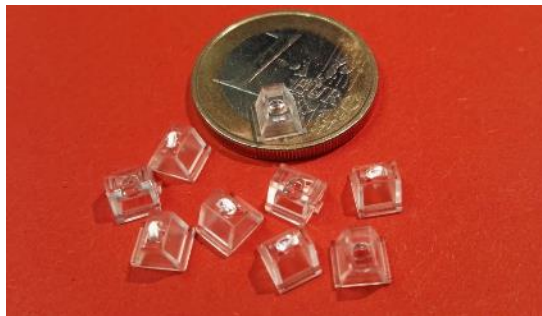
MICROFLUIDICS



SURFACE ENGINEERING



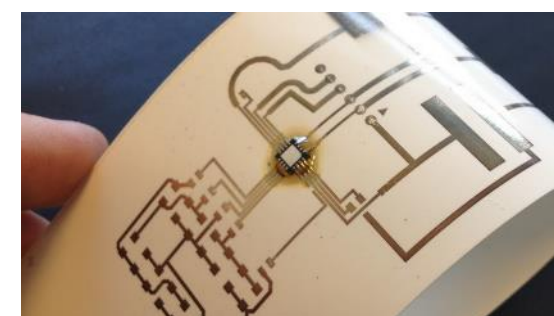
POLYMER OPTICS



MICRO-DEVICES

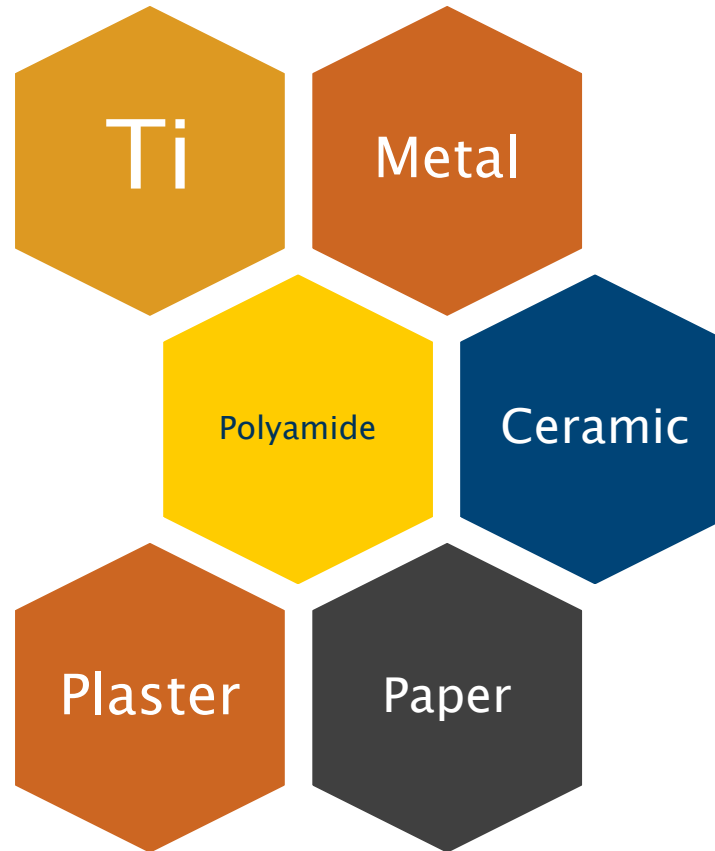


MICRO-MECHANICS



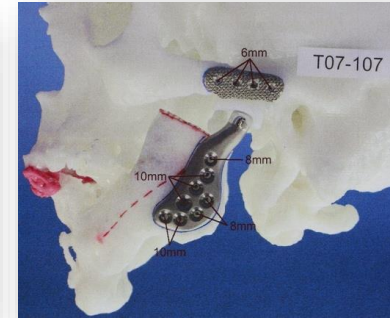
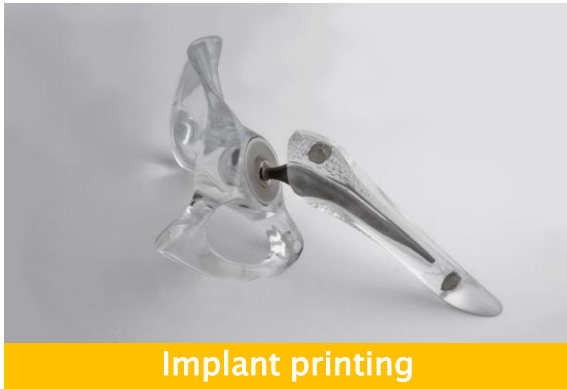
PLASTRONICS

# Application domains



Full chain  
All technologies  
R&D project  
20 years of experience

# Application domains



[Dr J. Poukens - UHasselt]

Custom fit Ti implant

Polyethylene part

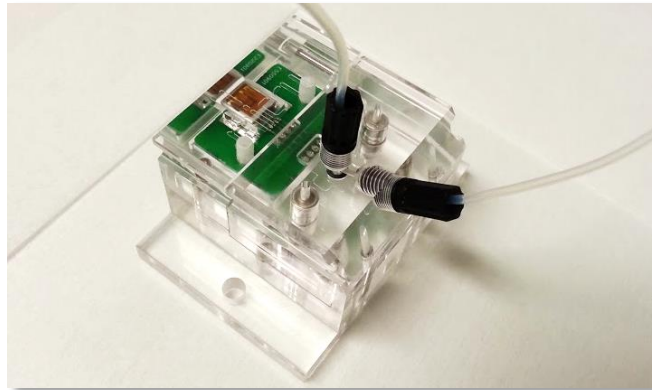
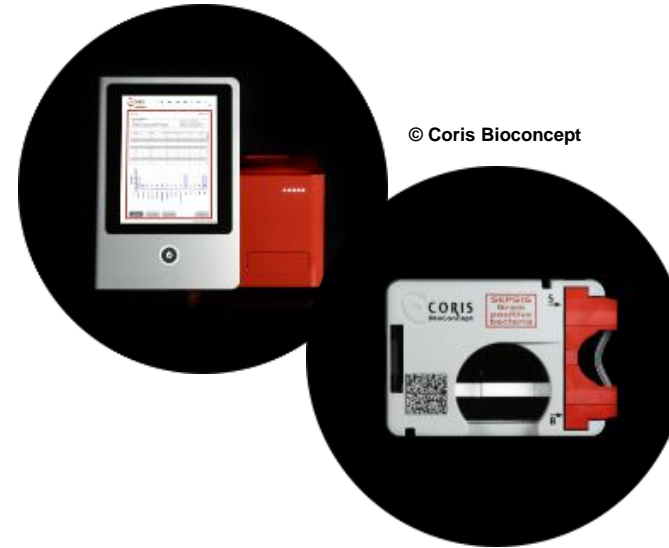
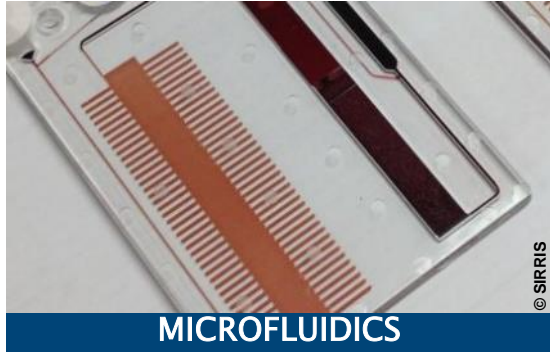
R&D project

# Application domains



Porous scaffolds  
Macro-porosity  
Bone integration

# Application domains



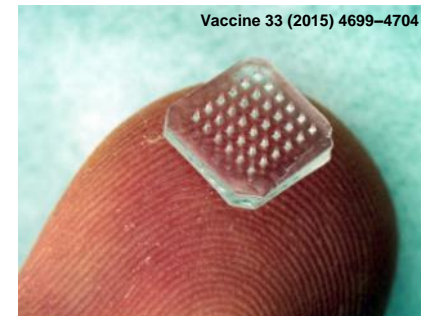
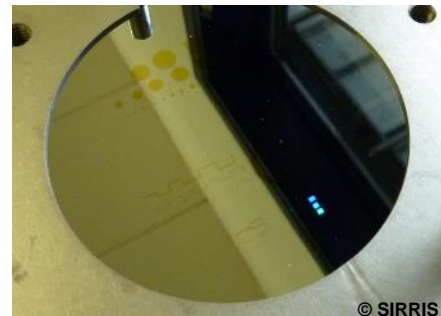
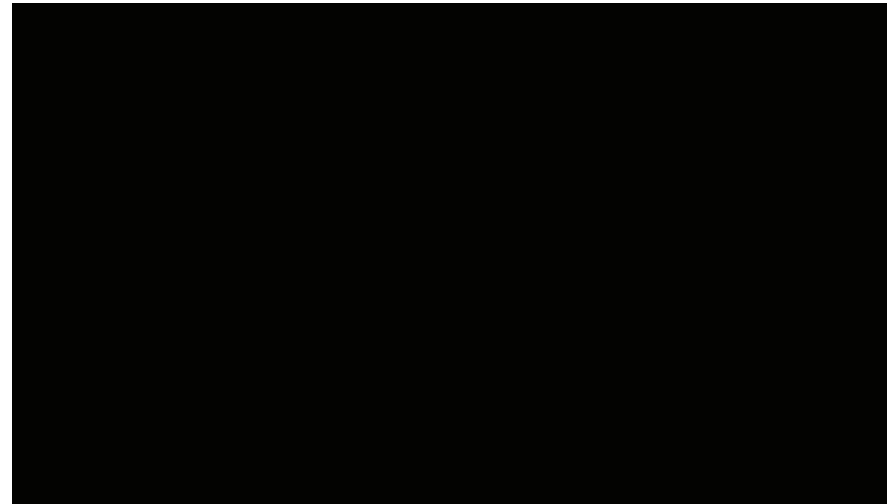
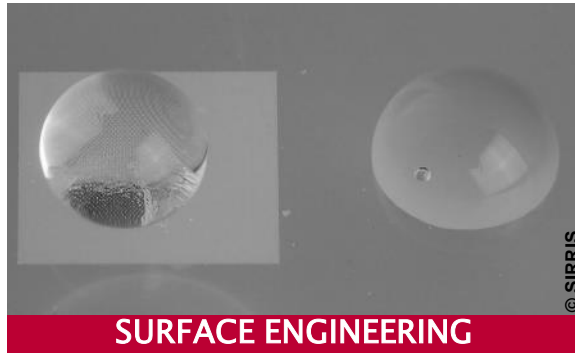
Gladding, P.A., et al., *J. Pers. Med.* 2013, 3(3), 203-237

Lab-on-chip

Point-of-Care  
Diagnostic kit

Fluid management

# Application domains



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Easy-cleaning

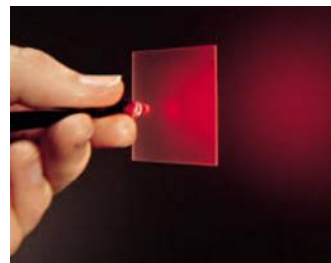
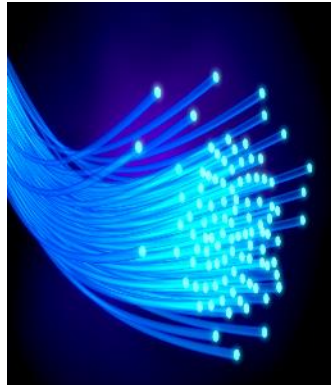
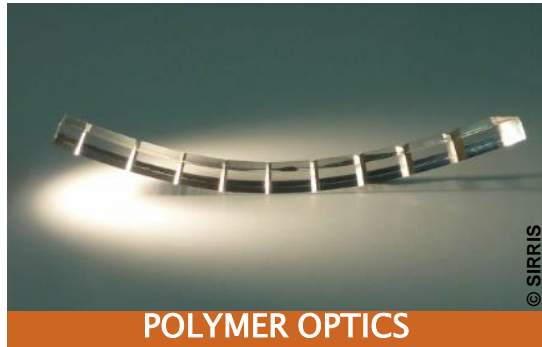
Micro-needles

Diffractive optics

Low friction

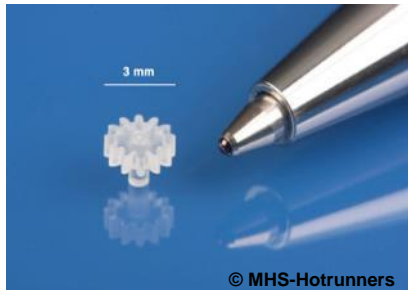
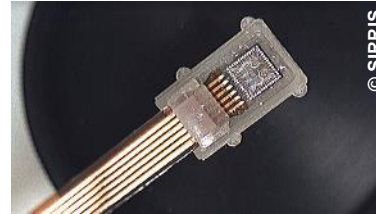
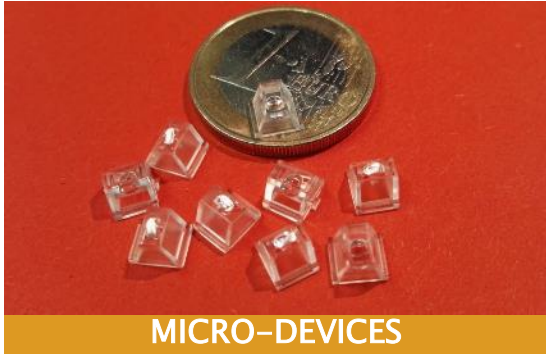


# Application domains



- Illumination
- Beam shaping
- Lighting
- Plastic Fibers
- IOL
- Telecom
- Sensors
- Light guides

# Application domains



Microlens

Packaging

Filters

Tools

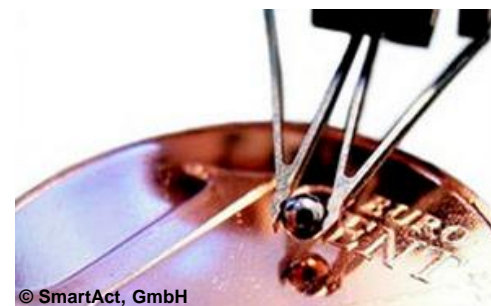
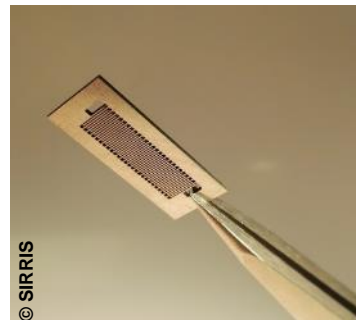
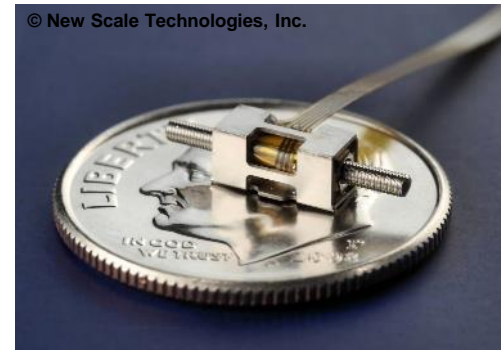
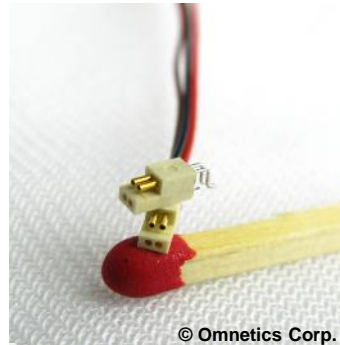
Connectors

Adapters

Interfaces

Gears

# Application domains



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Positioning

Spacer

Gear

Gripper

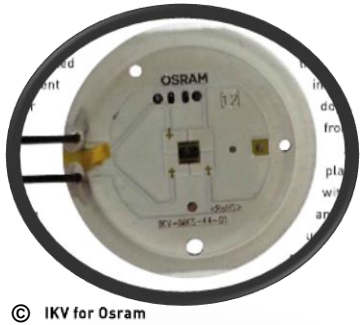
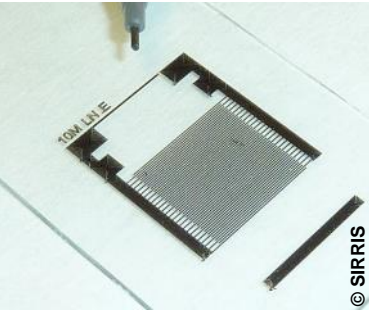
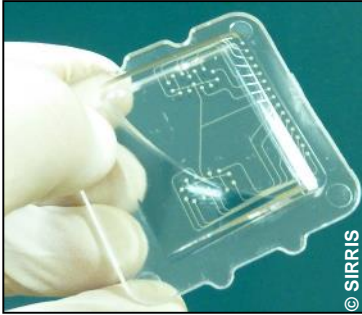
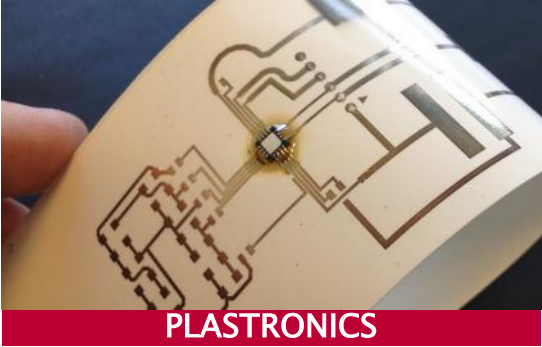
Spring

Screw

Switch

Mounts

# Application domains



- Sensor
- Circuitry
- Antennas
- Electrodes
- Gauge
- Switch
- 3D-MID

# De nombreuses collaborations avec Ulg, UMon, UCL, ULB, VUB,

- Giga
- Faculté agro bio tech
- Interface, TTO, ..
- Faculté sciences appliquées
- Faculté des sciences
- CIRM
- BEAMS

# Services d'ingénierie que SIRRIS peut proposer?

- Développement de nouveaux produits et de systèmes à façon
- Support au développement de process
- Prototypage rapide
- Micro-usinage de précision
- Intégration de nouvelles fonctions (électronique, fonctionnalisation de surface) ➡ SMART PRODUCT
- Réalisation de pré-série (par ex. la validation clinique)



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