



driving industry by technology

The collective centre of the Belgian technology industry

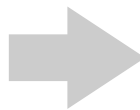
2450 member companies in the manufacturing sectors of Belgium



Our centre



Federation
for the technology industry



driving industry by technology

Collective centre of
the technology industry

- Nonprofit organisation
- Industry owned

Mission

*“Increase the **competitiveness** of companies of the **Agoria sectors** through **technological innovations**”*

Our technological sectors



Aerospace Automotive Construction products

Contracting & Maintenance **Electrical engineering** Industrial

automation Mechatronical engineering

Information and communication technologies (ICT)

Metals & materials **Metal processing** Mounting & cranes

Plastics & composites **Security & defence**

Sirris members

2450 companies

125 large companies (>250 employees)

2325 SME's (<250 employees)

VOLVO
Volvo Cars Gent

CATERPILLAR

vest

bosal

Alcatel-Lucent

BOSCH

SIEMENS

Valeo

Atlas Copco



Nuko



Samsonite
WORLDPROFF.

PHILIPS
sense and simplicity

Techspace Aero
snecma group

GROUPE HERSTAL

MAGOTTEAUX
Specialists in Grinding Processes and Wear Mechanisms

automatic systems



ENSIVAL-MORET

R.Tech
Research & Technology

REM-B
HYDRAULICS

DYNACO

ZenTech

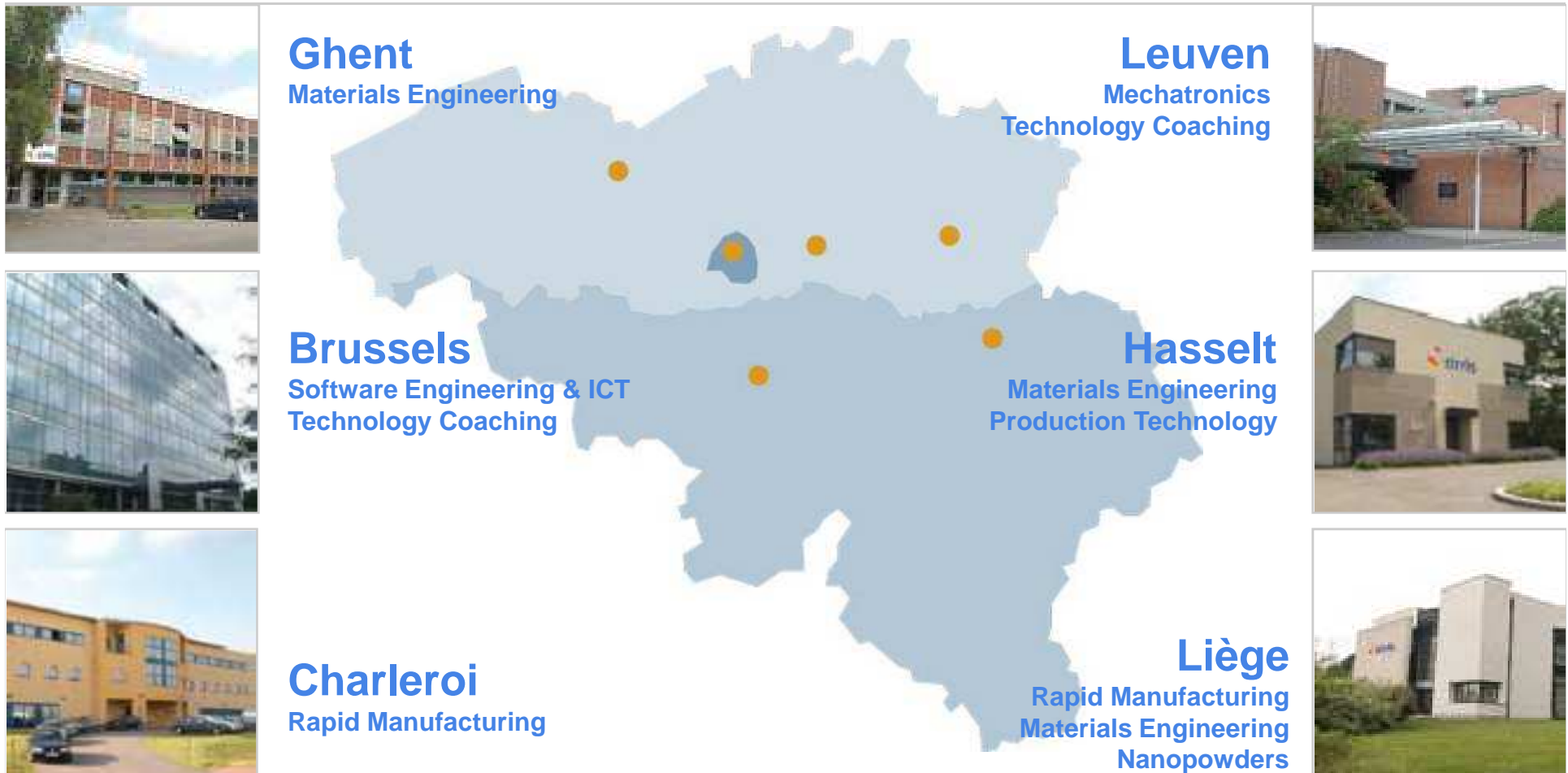
ISOBAR
REFORMATION SYSTEM

nanocyl

ROBBERECHTS

macq électronique

Local presence, near the companies

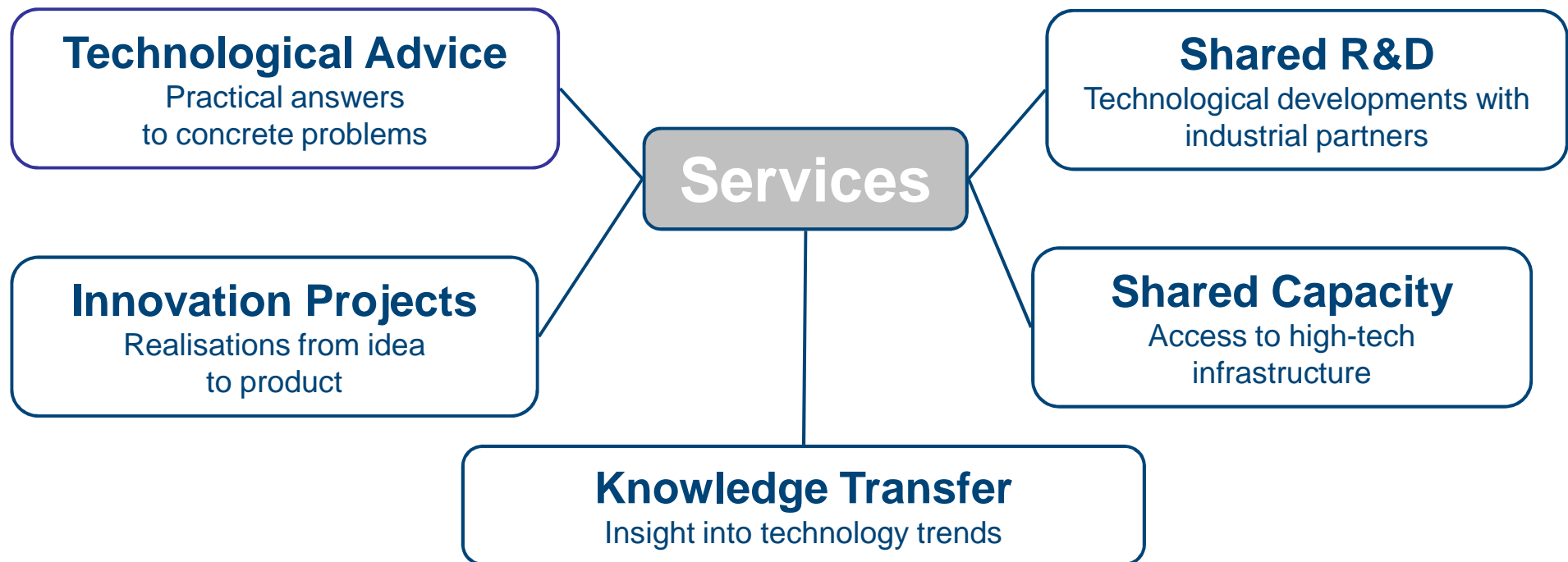


> 120 experts in 6 sites in the 3 regions

What does Sirris mean to you?

From individual services

to common research programs



Facts & figures in 2010

4600 interventions per year (advice, projects, services)

whose **70%** for **SME's**

within **2000** different **companies**

1560 payed projects and services for **6.2 mio EUR**

20M turnover

- Polymers
- Composites
- Light Metals
- Nanocomposites

Rational integration of advanced materials in products and processes

Advanced processes
Thixomoulding
Micromoulding
PIM-MIM
Electronic printing (AJP)

- Product development
- CAD/CAE
- Thermal Management
- Product Design and reconception
- Traceability

SIRRIS Wallonie

Nanopowders

Reliable and safe Nanopowders Implementation in economic applications

- ceramic nanopowder production
 - metal nanopowder production
- Plasma production process
 - Nano Powders characterisation
 - Safe implementation in current productions
 - Integration in nanocomposite materials

Pilot plasma nanopowder production unit
Nanopowders characterisation lab

- Rapid prototyping
- Rapid tooling
- Rapid manufacturing

Additive processes for the « Net Shape » fabrication of complex functional parts

- Additive processes & post process
- Customised production in medical and aerospace sectors
- Reduction of « Time to Market » factor
- Impossible parts Fabrication

µstereolithography
Electron Beam Melting (Ti)
3D Printing (from plaster to metal)
3D laser melting (Steel, Ti, ...)

Sirris Application Labs



Sirris Leuven Composites Application Lab



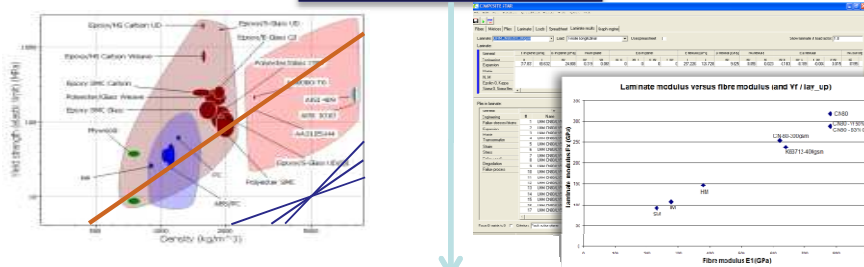
SLC: <http://www.slc-lab.be>

Composites @ Sirris

- Composite activities in Leuven (SLC), Seraing (Sirris) and Diepenbeek (Sirris)
 - SLC = Sirris Leuven Composites Application Lab
 - <http://www.slc-lab.be>
 - New, open initiative by KU Leuven and Sirris
 - Mission: to provide the industry with tangible solutions to create innovations with composites
 - Sirris Seraing
 - Design, testing, production engineering and development of composites
 - Sirris Diepenbeek:
 -  Surface treatment of composites
 - Finishing of composites: trim/drill/machine/...
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Composites @ Sirris: from your idea to a tangible product

Feasibility study

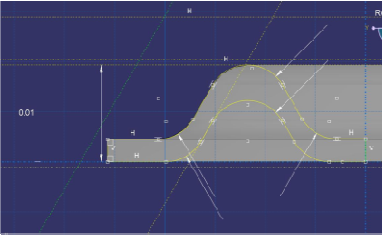


Product

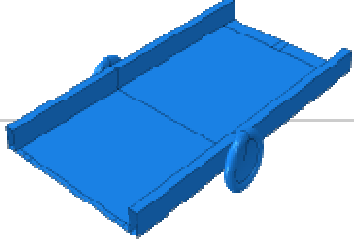
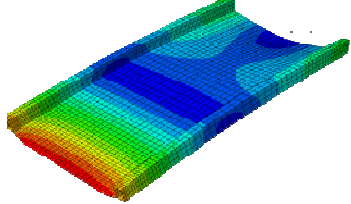


Conceptual design
 material
 process
 tooling
 series
 cost

Validation
 prototyping
 testing
 production planning
 cost estimation

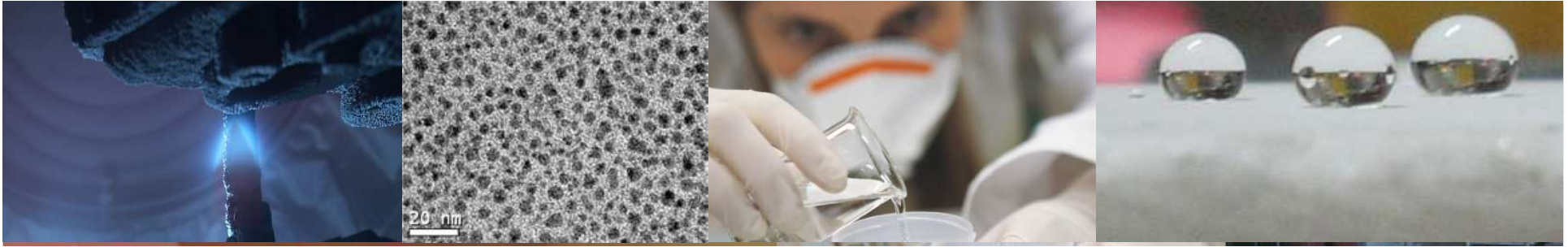


Structural design
 Virtual prototype
 Process development



Composites@Sirris: services

- Material screening and selection, coupon testing
- Prototype semi-finished materials (e.g. thermoplastic prepregs)
- Production trials, process design and development, process debugging
- Feasibility and trade off studies, conceptual design
- Advice on design and structural optimisation
- Advice on mould design
- Prototypes
- Validation through testing



SmartCoatings ApplicationLab

PVD/PACVD en CVD technologie



PVD/PACVD/Sputtering ...

De nieuwste generatie PVD/PACVD coatings

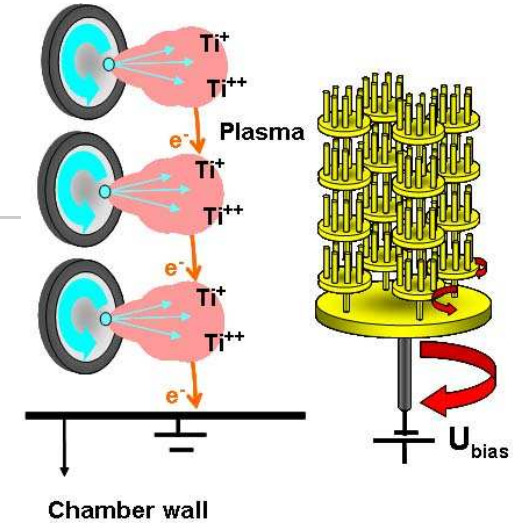
- Arc evaporation
- Magnetron sputtering
- PACVD
- Duplex treatment

Depositie van nieuwe, multifunctionele en smart coatings

T-mode in reactief sputteren maakt gecontroleerde depositie van metaaloxiden mogelijk



Hauzer Flexicoat® 850
Investering 900 k€

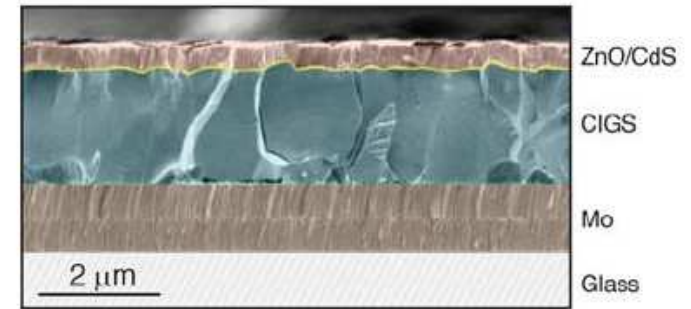


Hoge kwaliteit door HIPIMS technologie

Depositie van DLC coatings en glasachtige lagen via PACVD



Toepassingen met nieuwe PVD/PACVD infrastructuur



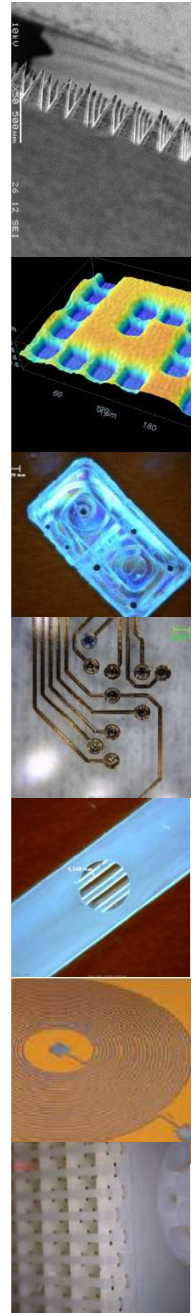
- **Wear resistant coatings**
- **Tribological and low friction coatings**
- **Metaloxide coatings (Al_2O_3)**
- **Optical coatings**
- **Smart coatings**
- **Biocompatibele coatings**
- **Thin film devices**



Sirris Microfabrication AppLication Lab

Service, support and solutions
in **MICROFABRICATION** for industry

- Technology watch
- Practical advices (design, products & applications)
- Technologies stacking
- Microsystems development, prototypes to pre-series,





Sirris Microfabrication AppLication Lab

▪ Knowledge Center

- *Projets de Recherche,*
- *Veille et guidance technologique,*
- *Orientation stratégique et/ou opérationnelle*

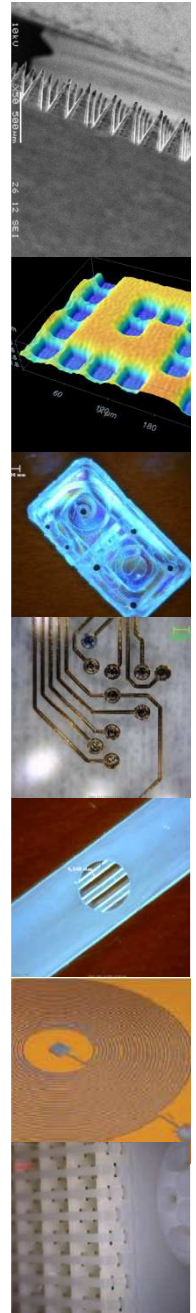
▪ Service and Support

Mise à disposition des moyens internes ou partagés en matière de:

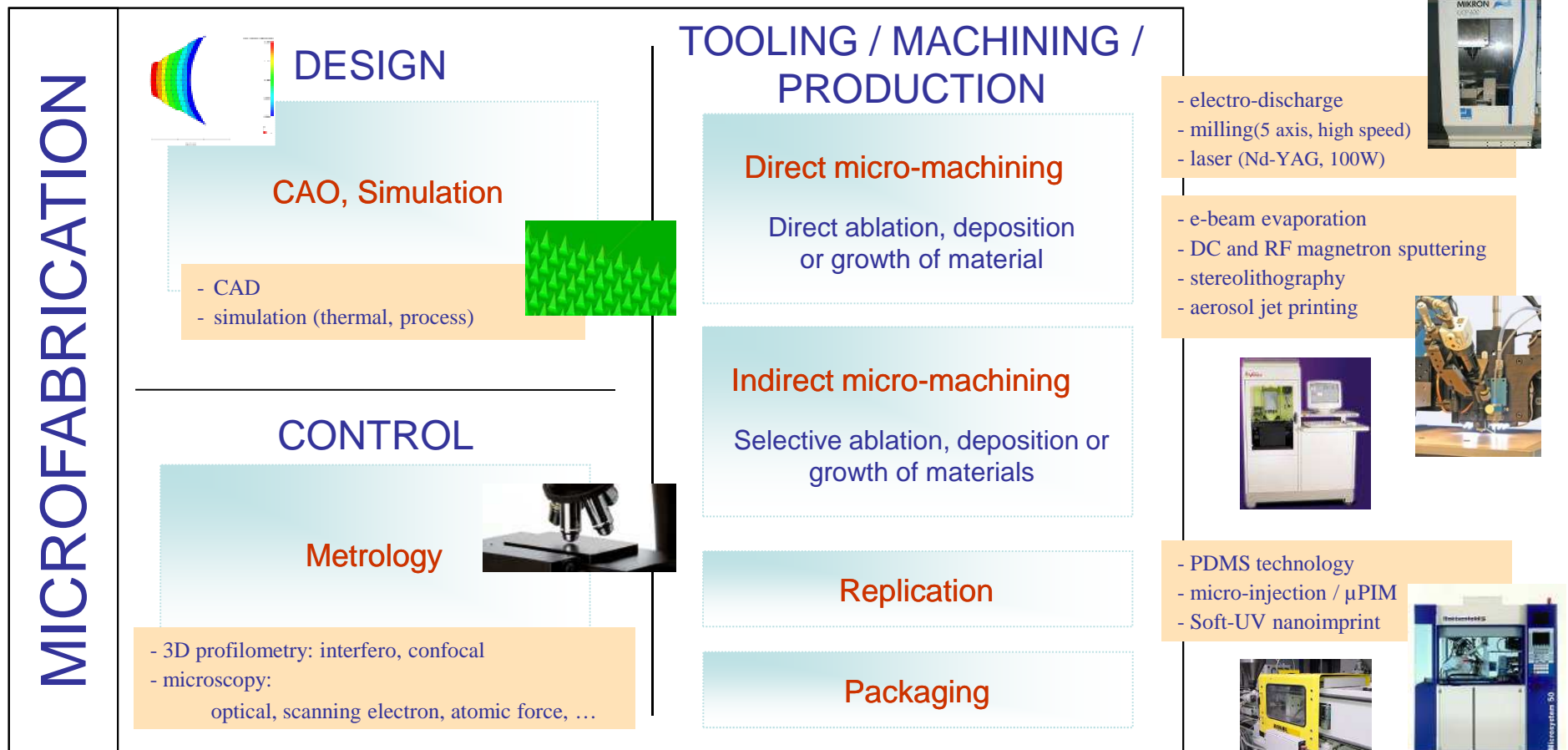
- **Design, simulation** (CAO, thermique, process...)
- **Micro-machining** (micro-fraisage, électro-érosion, laser caving, ...)
- **Selective material deposition** (Aerosol Jet Printing)
- **Micro-replication** (soft-UV nanoimprint, micro-injection polymère, métal, ...)
- **Métrie et Caractérisation...** (microscopie confocale, profilo interféro, SEM, ...)

▪ Solutions Globales - de l'idée au produit

- **une réponse concrète et personnalisée pouvant aller jusqu'au prototype ou la pré-série industrialisable.**



Internal « microfab » resources @ Sirris



Thank you for your time

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