

2^{èmes} **rencontres** Euro-Régionales
de la **biotechnologie** et de la **santé**

Les **1** et **2** juillet 2010

Le Corum | Montpellier

 **Eurobiomed**
Biocluster Méditerranée


biomeridies



RESCOLL



Technology Centre of Materials

**R&D
Polymers and
Composites**



**Bonding and
Bonded
assemblies**



**Surface
Treatment**



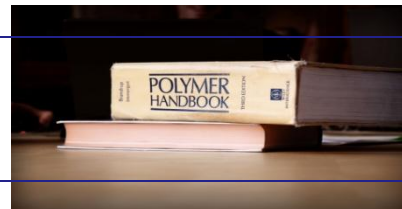
**Fire
Engineering**



**Synthesis of
Chemicals**



Regulatory affaires



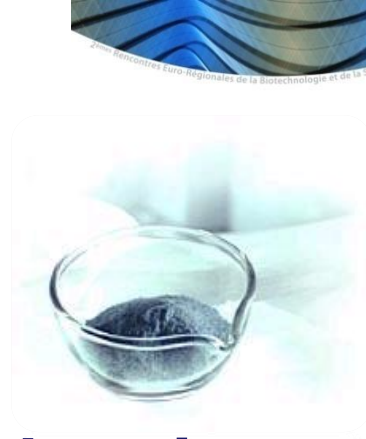
**Analysis
Testing**



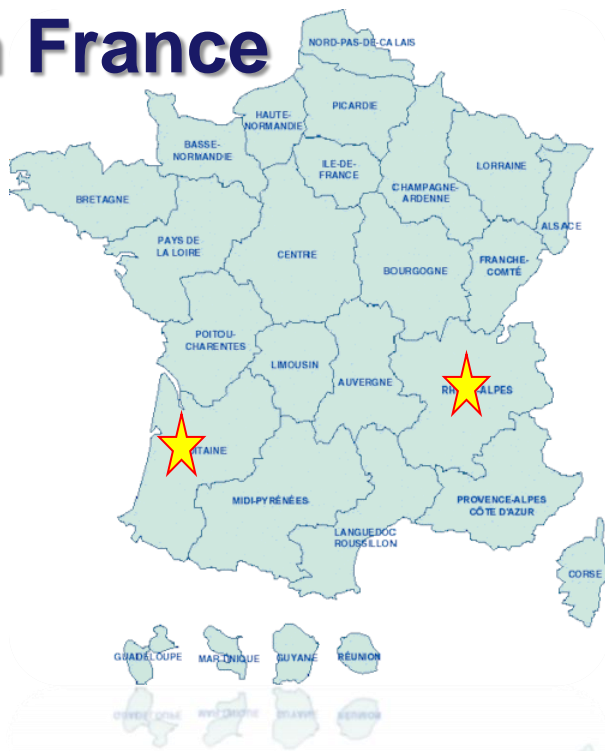
**Audits and
Expertises**



Where we are, Who we are, How many we are



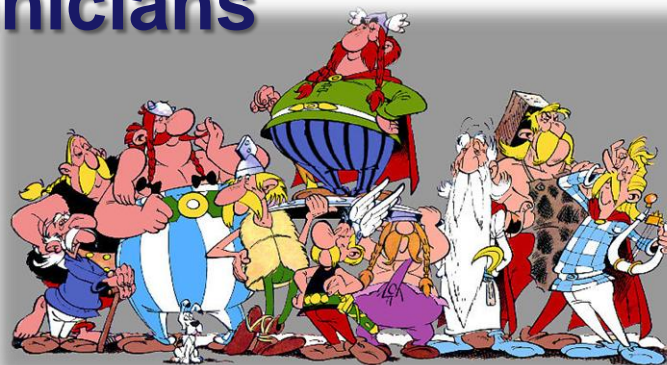
**We are located
in France**



**We are chemists
and materials
engineers**



**30 Dr., Eng., and
Technicians**



What do we do?

Research and development for other companies

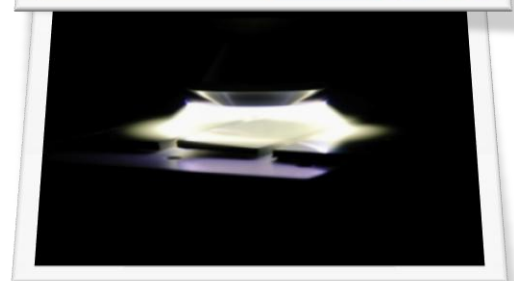


Analysis services on:

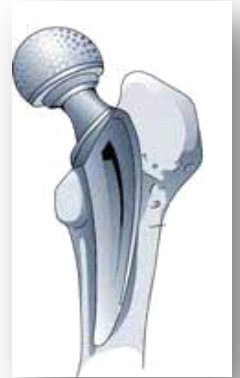
- **Chromatography**
- **Spectrometry**
- **Thermal-mechanical analysis**
- **Mechanical analysis**
- **Surface characterisation**
- **Accelerated aging**
- ...



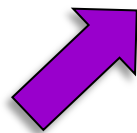
Expertise and Training



Development of Implants and Scaffolds in Composite Materials

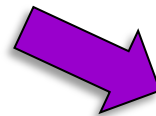


2 kinds of composites developments



Fibres Reinforced Composites

- High load and mechanical resistance
- Non resorbable
- Osteoconductivity



Hybrid Reinforced Composites

- Low to medium load
- Resorbable
- Osteoinductivity

(Fibres Reinforced Composites)

Advantages:

Possibility to regulate mechanical properties:

- By zones
- By kind of mechanical stress
- In relation to bone properties

Millions of opportunities to improve biocompatibility:

- Including bioactive fillers in the resin
- Applying bioactive coatings

However....

Need to deal with:

- Residual monomers, Tg, flexural modulus...
- Sterilisation procedures

Need to educate surgeons



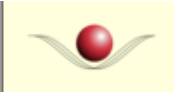
fp6 Project : Newbone



Development of load bearing bone replacement implant in composite materials

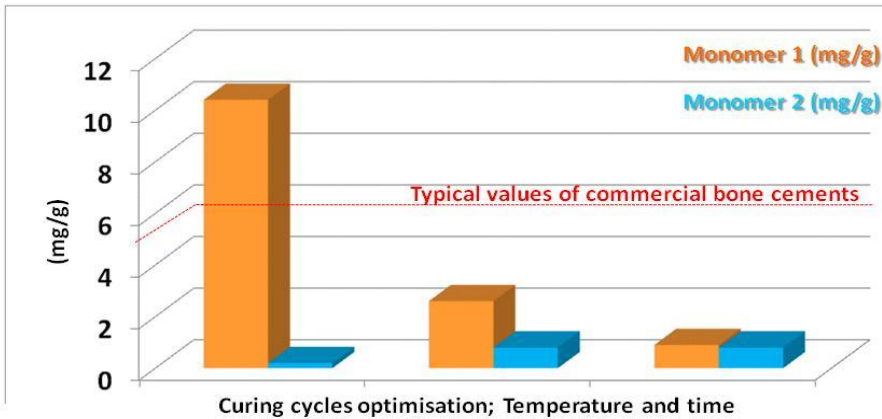


**NEWBONE is a fp6 IP project,
Budget of 8 M€,
16 partners
9 European countries involved**

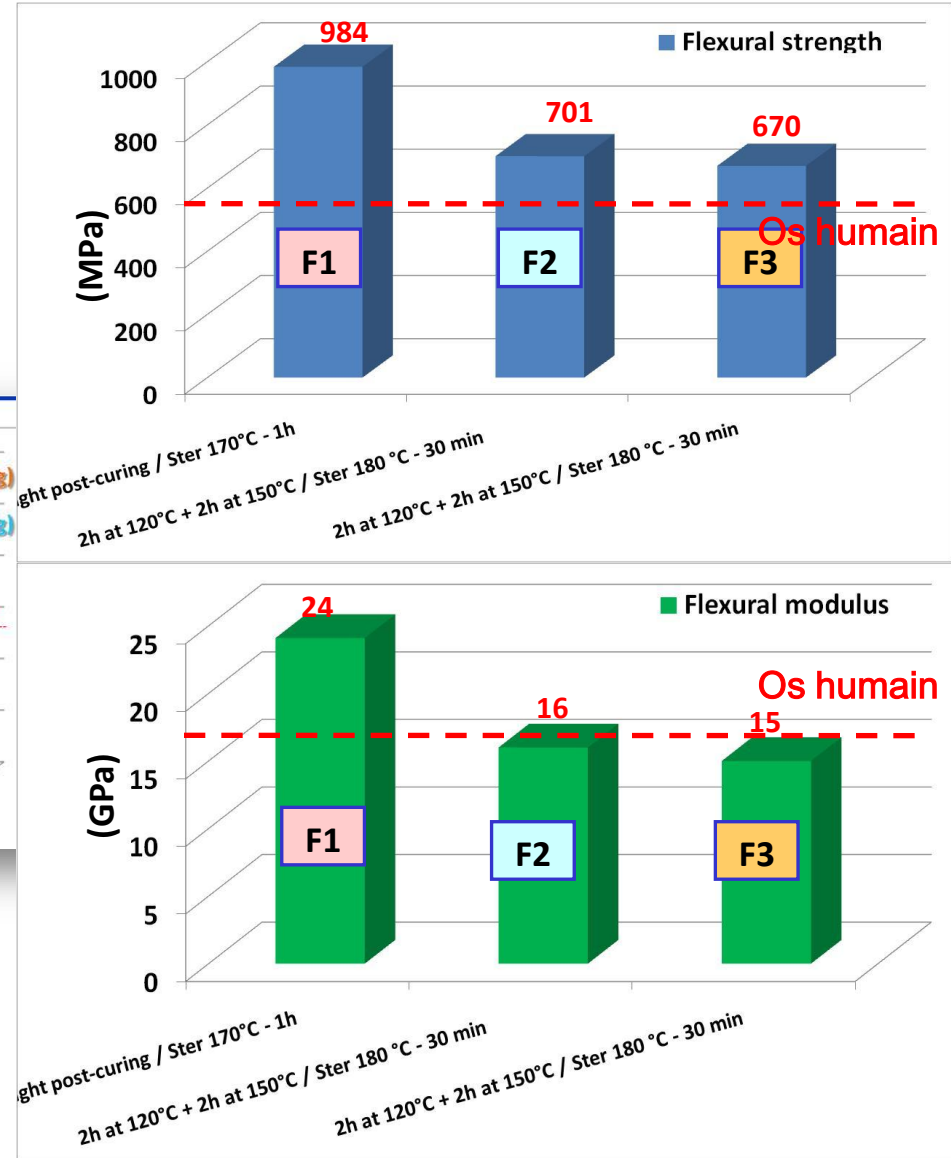


FRC results

Residual monomers

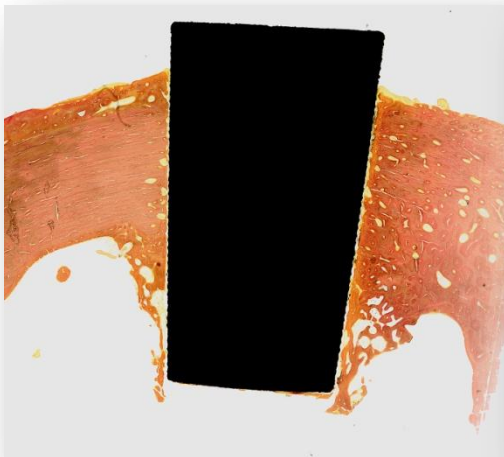


Flexural properties

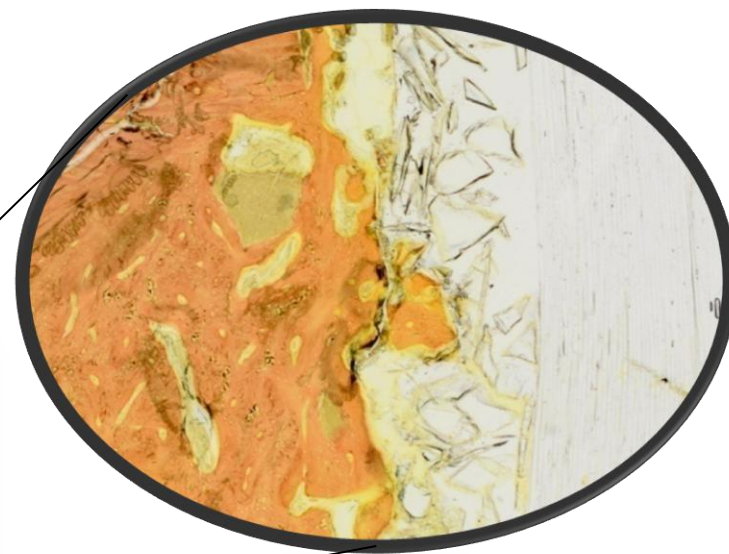
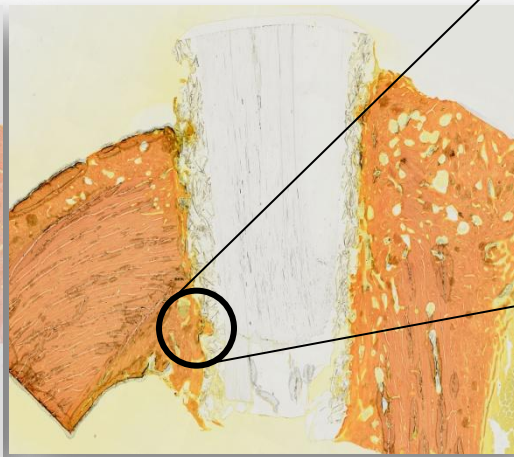


Results of FRC developments in the Newbone Project

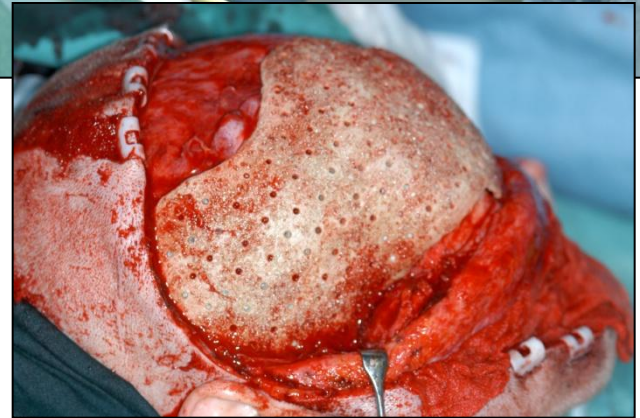
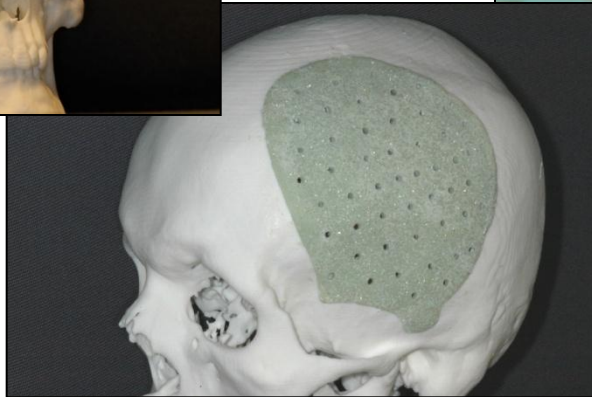
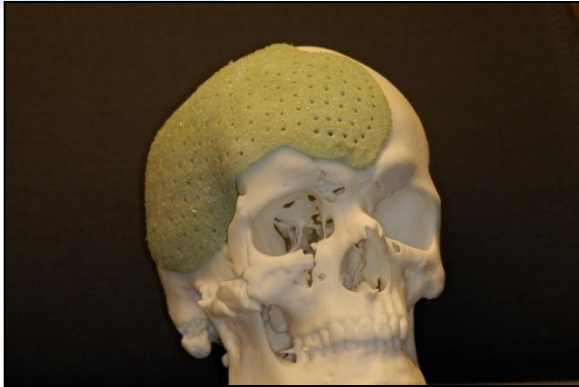
Control: Ti6Al4



Test: FRC



FRC example



Aknowledgments to
*UTU & Turku University Central
Hospital
Prof. Pekka Vallittu
Doc. Kalle Aitasalo*

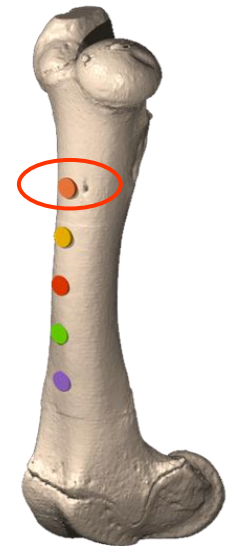


The **HOBbit** project:



High-tech **O**rthopaedic **B**one with the use of **B**ioresorbable **I**mpant **T**echnologies

National funded project,
Budget of 2 M€,
5 partners





Some of our customers and partners



For further information:

Thank you for your attention

Questions?



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