I3A: Aragon Institute for Engineering Research
Instituto de Investigación en Ingeniería de Aragón

R&D at I3A of the University of Zaragoza

2016, April
OUR OBJECTIVES:

- The promotion of **scientific research** related to diverse fields of engineering.
- Contribute to economic development by **technology transfer** to the industrial sector.
- Support of high qualification **education**, at postgraduate and doctoral level.
- The **dissemination** of science and technology in society.
I3A inside the University of Zaragoza

University of Zaragoza: main institution

I3A: research coordination & strategy, scientific policy, labs management, technical services

Research groups: knowledge
Some figures 2015

- **35** research groups
- **350 papers; JCR: 302**
- **50 PhD thesis**
- **103 oral conferences**
- **16 invited talks**
- **27 new patents**
- **29 courses**

**Turnover 2015: 10.6M€**

- **61%** Government
- **20%** Regional
- **14%** National
- **3%** European
- **1%** Industry

**Q1:** 177
**Q2:** 65
**Q3:** 25
**Q4:** 35

**Instituto Universitario de Investigación en Ingeniería de Aragón**
**Universidad Zaragoza**
We structure our research lines into 4 strategic research divisions

- **ICT Division**: Technologies for the knowledge society
- **Chemical Processes & Recycling Division**: Engineering to improve the environment
- **Industrial Technologies Division**: Technologies for the factories of the future
- **Biomedical Engineering Division**: Engineering techniques for the improvement of health
Information & Communication Technologies Division

Technologies for the knowledge society

- Advanced computing technologies and smart embedded systems
- Infrastructures, technologies and services for communications
- ICT for digital content and creativity: audio-visual technologies and multimedia
- Advanced interfaces and robots
Research laboratories

Cluster Hermes

Navigation robotics
Processes & Recycling research areas

Chemical Processes & Recycling Division

Engineering to improve the environment

- Energy and environment
- Hydrogen technologies
- Recycling and waste valorization
- Packaging, food quality and safety
- Agro-food technologies
Research laboratories

Thermal engineering lab

Fluidized bed gasification pilot plant
Biomedical Engineering Division

Engineering techniques for the improvement of health

- Biomaterials and tissue engineering
- Biological and biomechanical modeling
- Biomedical instrumentation and signal processing
- Prevention and care technologies
Research laboratories

Confocal Microscopy

Human Movement Laboratory
Tissue and scaffold characterization laboratory
Industrial Technologies Division

Technologies for the factories of the future

- Electronics & photonics
- Metrology & advanced fabrication
- Automotive
- Logistics
- Advanced materials & structural design
Research laboratories

Impact Lab in TechnoPark

Multilayer deposition facility
Our Institute holds 3 ERC grants in biomedical engineering and ICT.

Key Projects

ERC grants

INSILICO-CELL

José Manuel García Aznar

MODELAGE

Esther Pueyo

CHAMELEON

Diego Gutiérrez
Success case: technology transfer

B/S/H

8 different groups from I3A work in collaboration with the company B/S/H

The University of Zaragoza is the number one in research related to home appliances according to the Thomson Reuters World Innovation Report 2015
Several groups from I3A work in the development of new technologies applied to cognitive & physical disabled and elderly people.
Why I3A can face complex challenges?
FACT 1
We have Good Research Teams in many fields of engineering ranging from chemical engineering to software engineering.

FACT 2
There are many evidences about the quality of the research teams. It can be difficult to find a Research Institution with a good level in the following large list of indicators: Publications, Research Projects, International visibility, financial support, patents, industrial impact.
FACT 3

The added value of I3A is the PLASTICITY, understood as the ability to adapt this line of action to the stated CHALLENGE.

FACT 4

Small flexible groups can face these complex/big problems through a structure such as I3A.