R&D at I3A of the University of Zaragoza
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 2019

33 research groups

People

Turnover 2019: 10,7M€

Papers: 351; JCR: 277

29 New PhD thesis

221 Oral conferences

35 Invited talks

12 new registered patents

6 Scientific programs

Government
Regional
National
European
Industry
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
- Artificial Intelligence, Virtual and Augmented reality
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
- Circular Economy
Research laboratories

Thermal engineering lab

 Fluidized bed gasification pilot plant
Biomedical engineering research areas

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
- Personalise medicine
Research laboratories

Confocal Microscopy

Human Movement Laboratory
Research laboratories

Tissue and scaffold characterization laboratory

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Industrial Technologies Division

Technologies for SMART MANUFACTURING

- Electronics & photonics
- Metrology & advanced fabrication
- Automotive
- Logistics
- Advanced materials & structural design
- Industry 4.0
Research laboratories

Impact Lab in TechnoPark

Multilayer deposition facility
We have recently created 5 cutting-edge labs:

- Artificial Intelligence
- Circular Economy
- Industry 4.0
- Personalized Medicine
- Virtual & Augmented Reality
Impact Lab in TechnoPark

Biomedical Engineering Master & PhD program

Young Researchers' Day

Expert on Digital Transformation

Smart Manufacturing Program
Support to Digital Transformation

ARAGÓN DIH
Aragón Digital Innovation Hub
High Performance Cloud & Cognitive Systems
Dissemination

- Pint of Science
- School Visits & Open days
- Photonics Education
- Exhibitions
Our Institute holds 3 ERC grants in biomedical engineering and ICT

Key Projects

José Manuel García Aznar

Esther Pueyo

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 world second institution in research related to home appliances according to the Thomson Reuters World Innovation Report 2017
Success case: social challenges

Assistive Technologies

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.