Instituto Universitario de Investigación
en Ingeniería de Aragón
Universidad Zaragoza

I3A: Aragon Institute for Engineering Research

Instituto de Investigación en Ingeniería de Aragón

R&D at I3A of the University of Zaragoza

2020, June

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.**

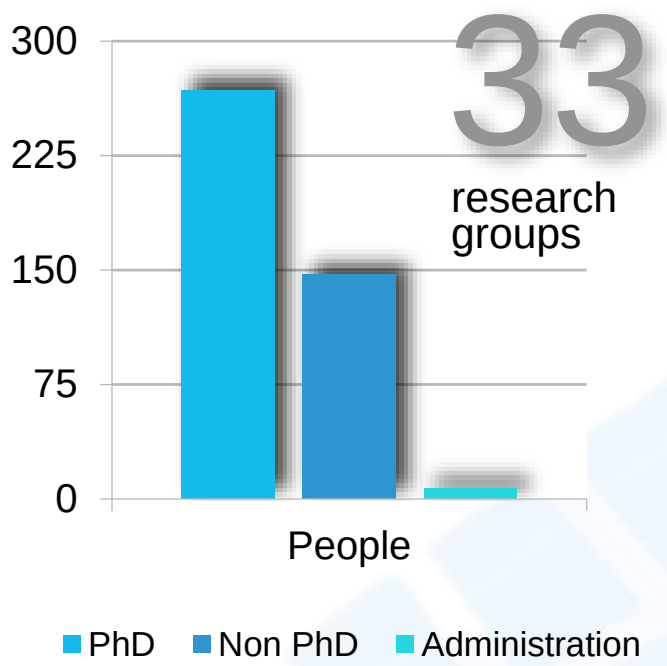
I3A inside the University of Zaragoza

University of Zaragoza: main institution

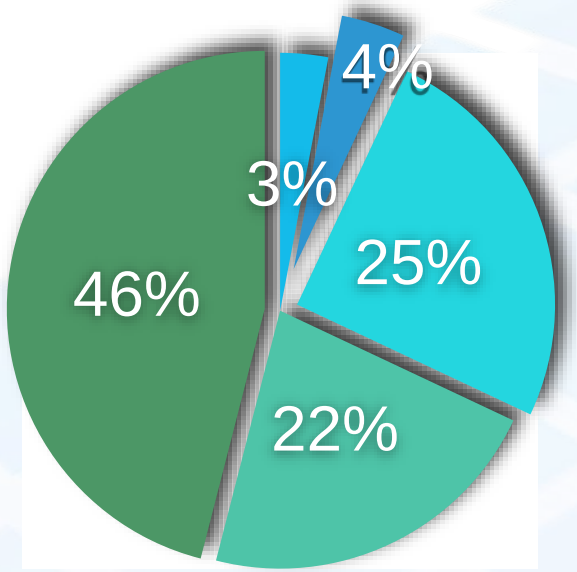
I3A: research coordination & strategy, scientific policy, labs management, technical services

Research groups: knowledge

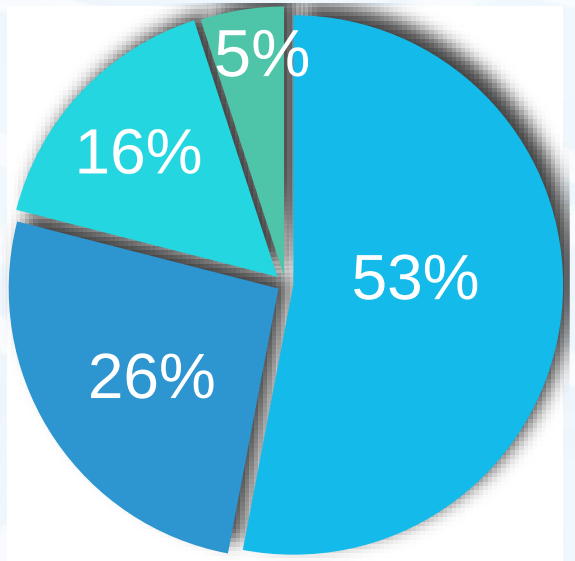
Some figures 2019



33 research groups



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

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Research divisions

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

ICT research areas

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
- Artifical Intelligence, Virtual and Augmented reality

Research laboratories

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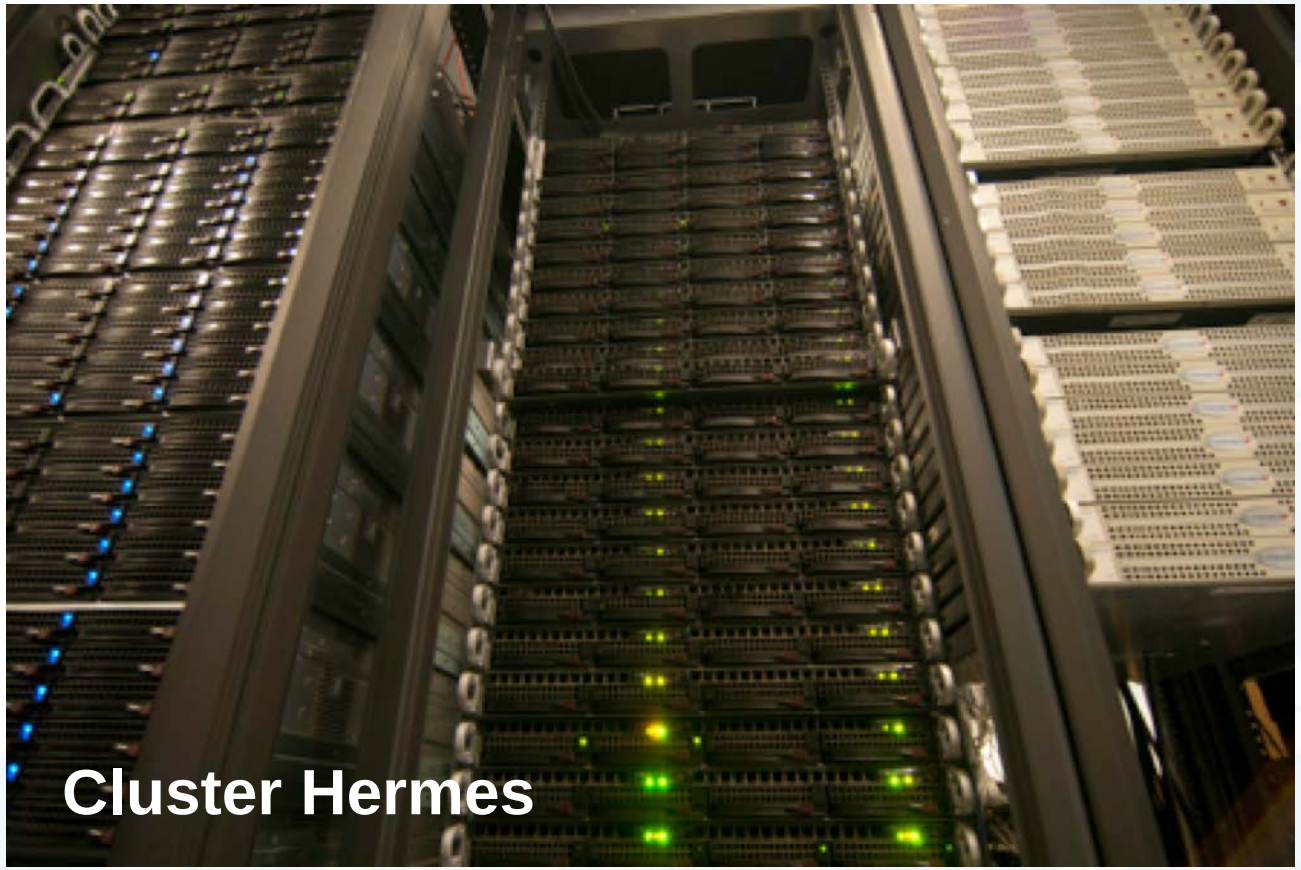


Cluster Hermes

Navigation robotics

Processes & Recycling research areas

Chemical Processes & Recycling Division

Engineering to improve the environment

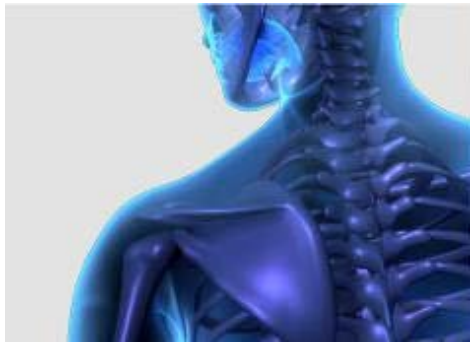
- Energy and environment
- Hydrogen technologies
- Recycling and waste valorization
- Packaging, food quality and safety
- Agro-food technologies
- Circular Economy

Research laboratories

Fluidized bed gasification pilot plant

Thermal engineering lab

Biomedical engineering research areas

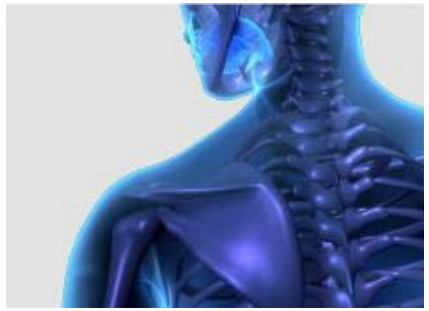


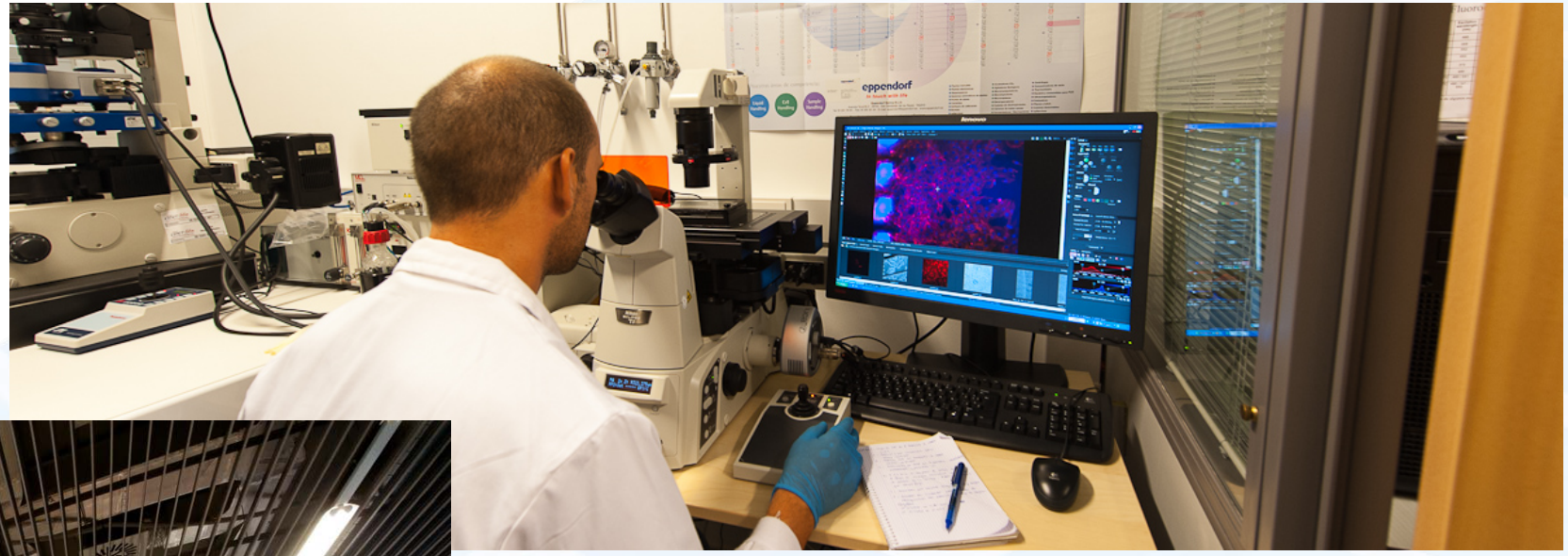
Biomedical Engineering Division

Engineering techniques for the improvement of health

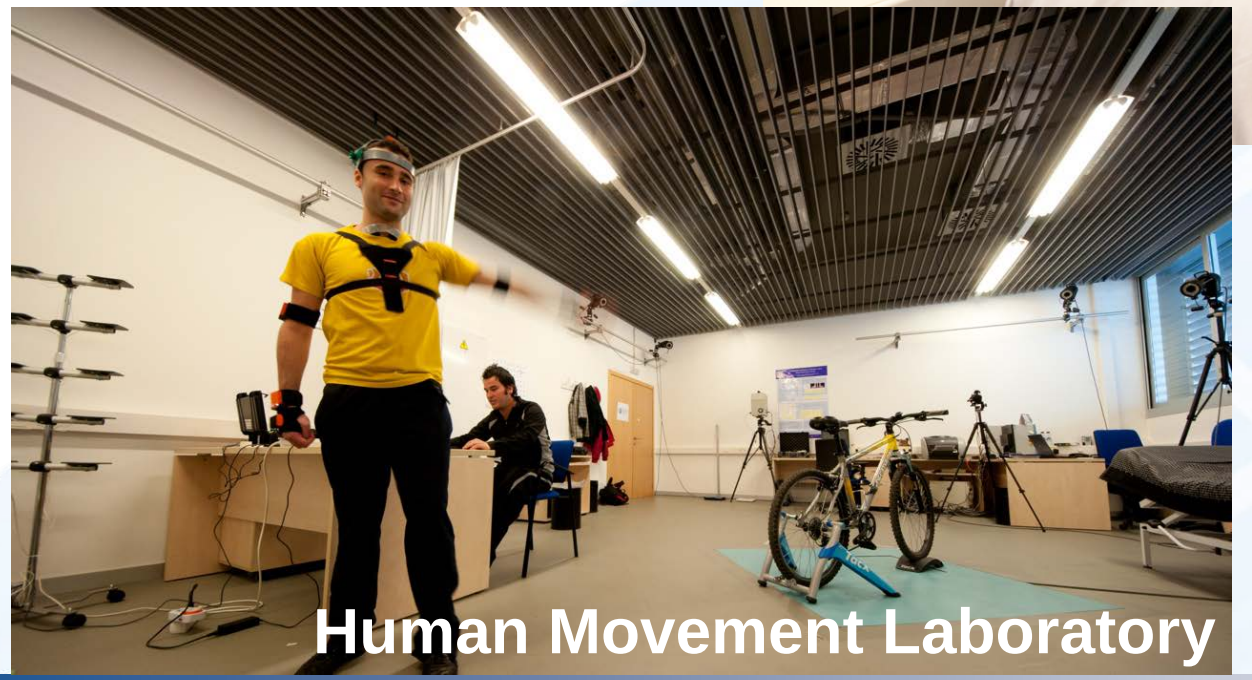
- Biomaterials and tissue engineering
- Biological and biomechanical modeling
- Biomedical instrumentation and signal processing
- Prevention and care technologies
- Personalice medicine

Research laboratories



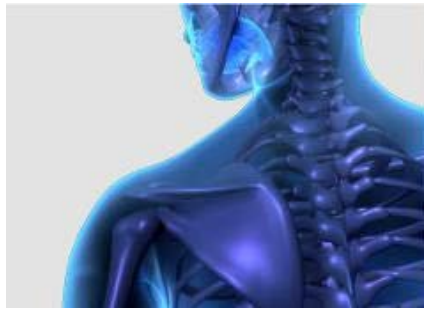


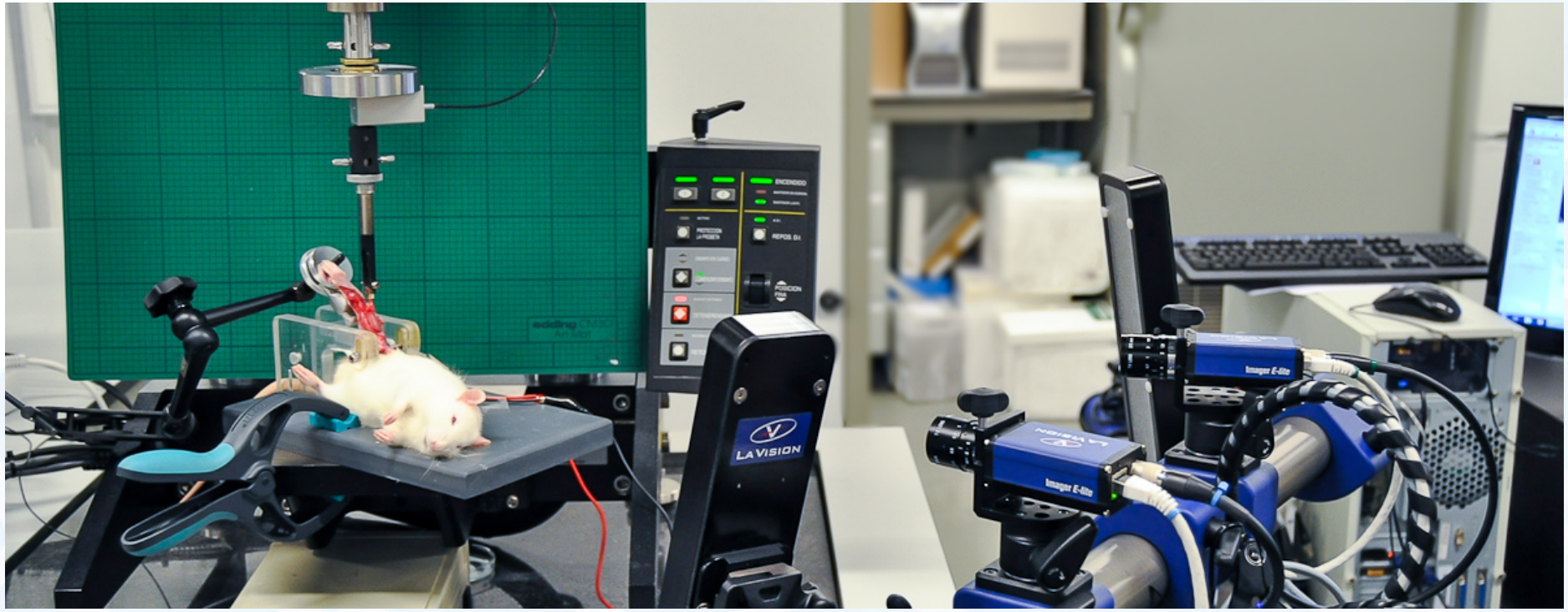
Confocal Microscopy



Human Movement Laboratory

Research laboratories





Tissue and scaffold characterization laboratory

Industrial Technologies research areas

Industrial Technologies Division

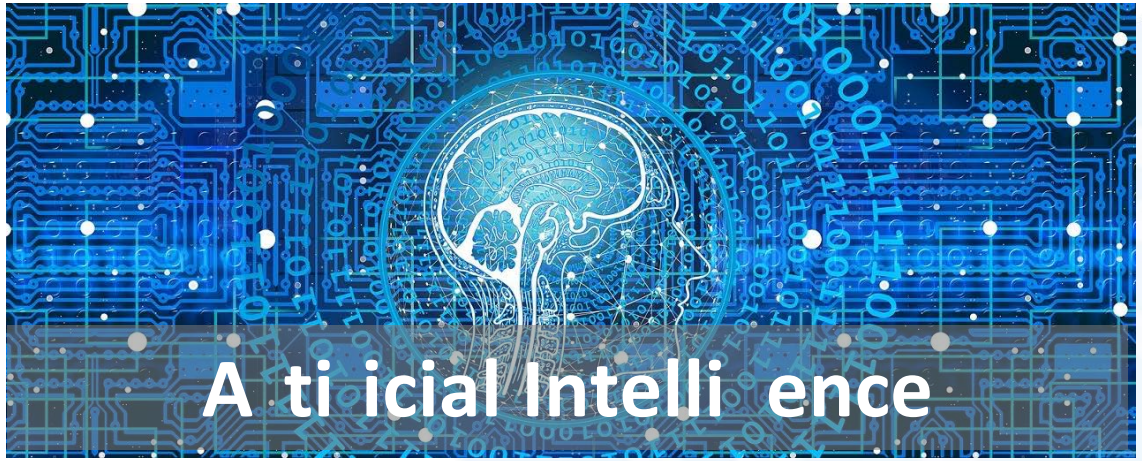
Technologies for SMART MANUFACTURING

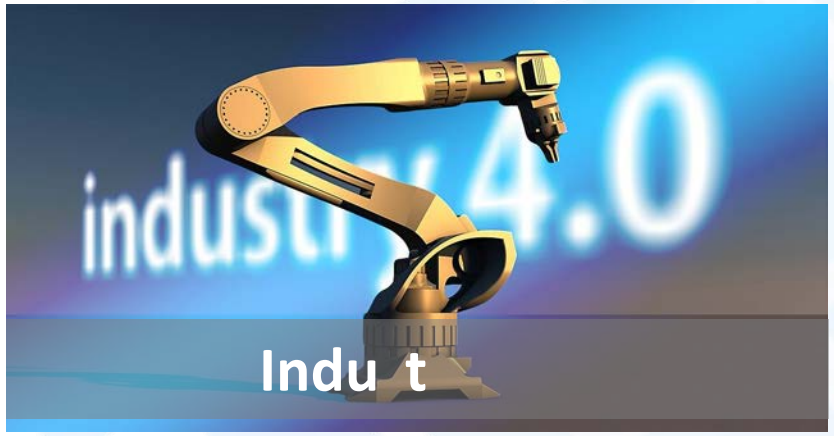
- Electronics & photonics
- Metrology & advanced fabrication
- Automotive
- Logistics
- Advanced materials & structural design
- Industry 4.0

Research laboratories

Cutting-edge Labs

We have recently created 5 cutting-edge labs



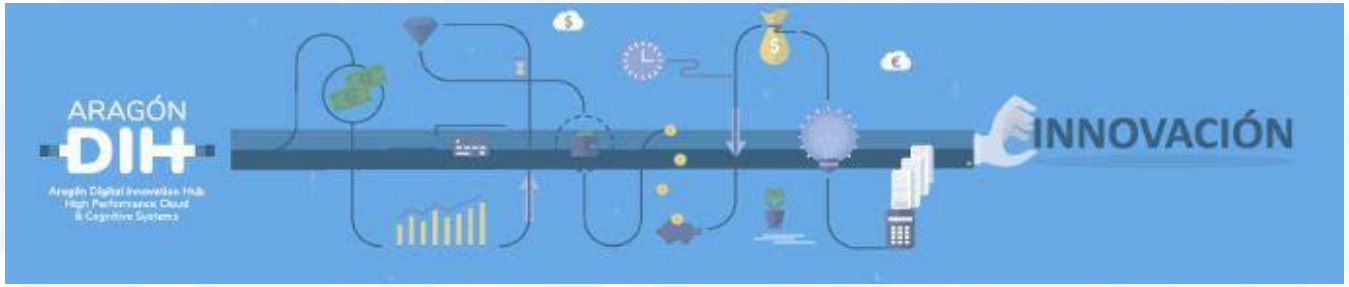


Education and Skills

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

ERC grants

Key Projects

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 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

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