

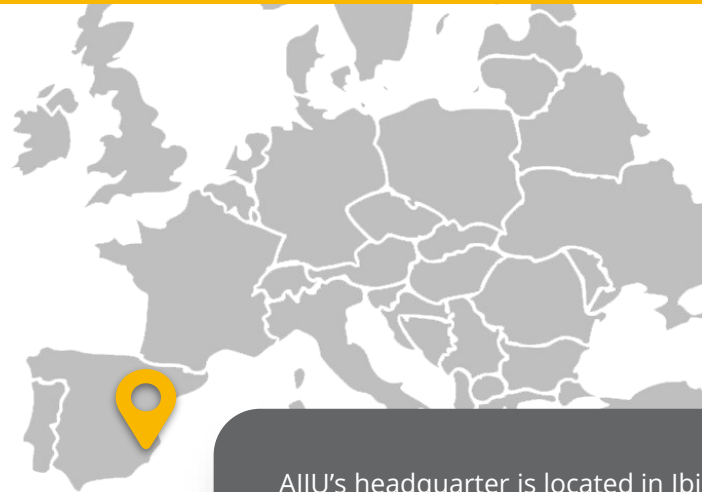


 **aiju** TECHNOLOGICAL INSTITUTE  
FOR CHILDREN'S  
PRODUCTS & LEISURE



Since 1985, AIJU – European Research Association of the Toy and related industries– is a private non-profit making organisation aiming to boost research development and technological innovation within toy, childcare products and leisure industry.

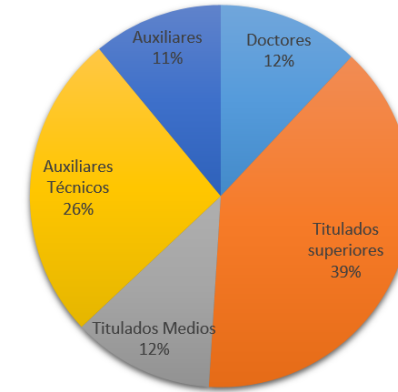
## **AIJU** **Technological Institute for children's products & leisure**



AIJU's headquarter is located in Ibi (Alicante) in the Toy Valley in the south-east of Spain.



## TEAM 117 professionals



## ACTIVITIES

- Collaboration with universities, research centers, public organizations, official bodies, associations, private companies, SMEs.
- AIJU participates actively in both national and European technological platforms.
- More than 39.500 technological services carried out in 2022 for industry.
- Collaborative Research & Development projects executed at a national and European level.

A grayscale photograph of an industrial setting. In the foreground, a robotic arm is positioned over a large, curved metal component. In the background, a person wearing a white lab coat is looking at a tablet device. The image is overlaid with a yellow arrow pointing right, which contains the number '01', and a gray arrow pointing right below it.

**01**

**CAPACITIES**



RESEARCH & DEVELOPMENT

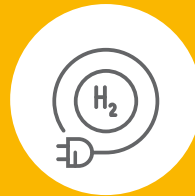
# CAPACITIES



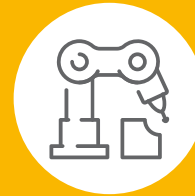
TOY SAFETY



ENVIRONMENTAL & CIRCULAR ECONOMY



ENERGY H<sub>2</sub>



INDUSTRIAL ROBOTICS



INNOVATIVE MATERIALS & MANUFACTURING



FOOD CONTACT MATERIALS



ICT & DESIGN



USERS & CONSUMER RESEARCH



E-HEALTH



3D PRINTING



STANDARDIZATION OF PRODUCT RESEARCH,  
SERVICES AND INFRASTRUCTURE

# CHILDREN PRODUCT SAFETY LAB

To find the solution to requirements with regard to the safety of children's products, leisure and sports articles.

- Test on articles for baby and child care
- Test in Toys
- Test of other products for children
- Test, inspection and certification of playground areas

Notified Body in the European Union No. 2356 under Directive 2009/48/EC concerning Toy Safety.

Accredited by the Ministry of Industry since 1 June 1987; and by the Ministry of Health and Consumer Affairs since 21 June 21 1989.

Laboratory recognized by the U.S. Consumer Product Safety Commission (CPSC)





# FOOD CONTACT SAFETY LAB

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To find the solution to requirements with regard to food contact materials and other consumer products.

- Food contact materials testing
- Test on Containers and packaging
- Tests in promotions with food
- Tests for packaging in other sectors: cosmetics, pharmaceuticals
- Test on NIAS (Non-intentionally added substances)
- Tests on child-proof packaging
- Legislative diagnosis
- Support for the declaration of conformity
- Ruling on labelling and instructions
- Definition of critical tests
- Identification and characterization of plastic materials

**ENAC** accredited laboratory on ISO/EIC 17025 to carry out **analysis in materials and consumer products** (certification n6/LE016)





## ENVIRONMENT & CIRCULAR LAB

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- Technical and Legal Advice on Industrial Environment
- Design and development of advanced water treatment systems
- Design and development of industrial waste recovery systems (industrial symbiosis)
- Increased value of resources within the value chain (Circular Economy)





## ENERGY LAB

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- Advanced systems for Energy Storage
- Hydrogen Technologies. Electrolyzers and Fuel Cells.
- Design & Development of pilot plants for energy applications.
- Design & Development of Fuel Cell and Electrolyzer Test Stations .
- Development of monoliths and special catalyst holders.
- PVD and electrochemical metallic coatings



## AUTOMATION LAB

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- Design and development of automation and robotics systems.
- Mobile Collaborative robotics for flexible task automation in industrial environments
- Development of robotic systems for manufacturing sectors.
- Sensor implementation: Integration of artificial vision and sensor systems.
- Electronics: Design of control and monitoring systems, SCADA, PLC, electrical schemes.
- Mechanics: Mechanical, thermal and fluid dynamic structural design and analysis (CAD/CAE).



# INNOVATIVE MATERIALS AND MANUFACTURING LAB

Lab and Pilot scale plant to develop functionalized plastic compounds

- Biobased polymers and additives solutions.
- Recycled materials research.
- Characterization, testing and Validation
- Injection moulding
- Extrusion
- Thermoforming
- Rotomoulding
- Extrusion-blow moulding
- Film extrusion



# ADDITIVE MANUFACTURING LAB

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## Material development

- Development of AM materials
- Functionalized materials for AM

## Product development

- Digitalization
- Inverse Engineering
- Pre and short series

## Additive Manufacturing

- Plastic Laser sintering
- Photopolimerization Objet
- Stereolithography
- FDM
- Selective Laser melting



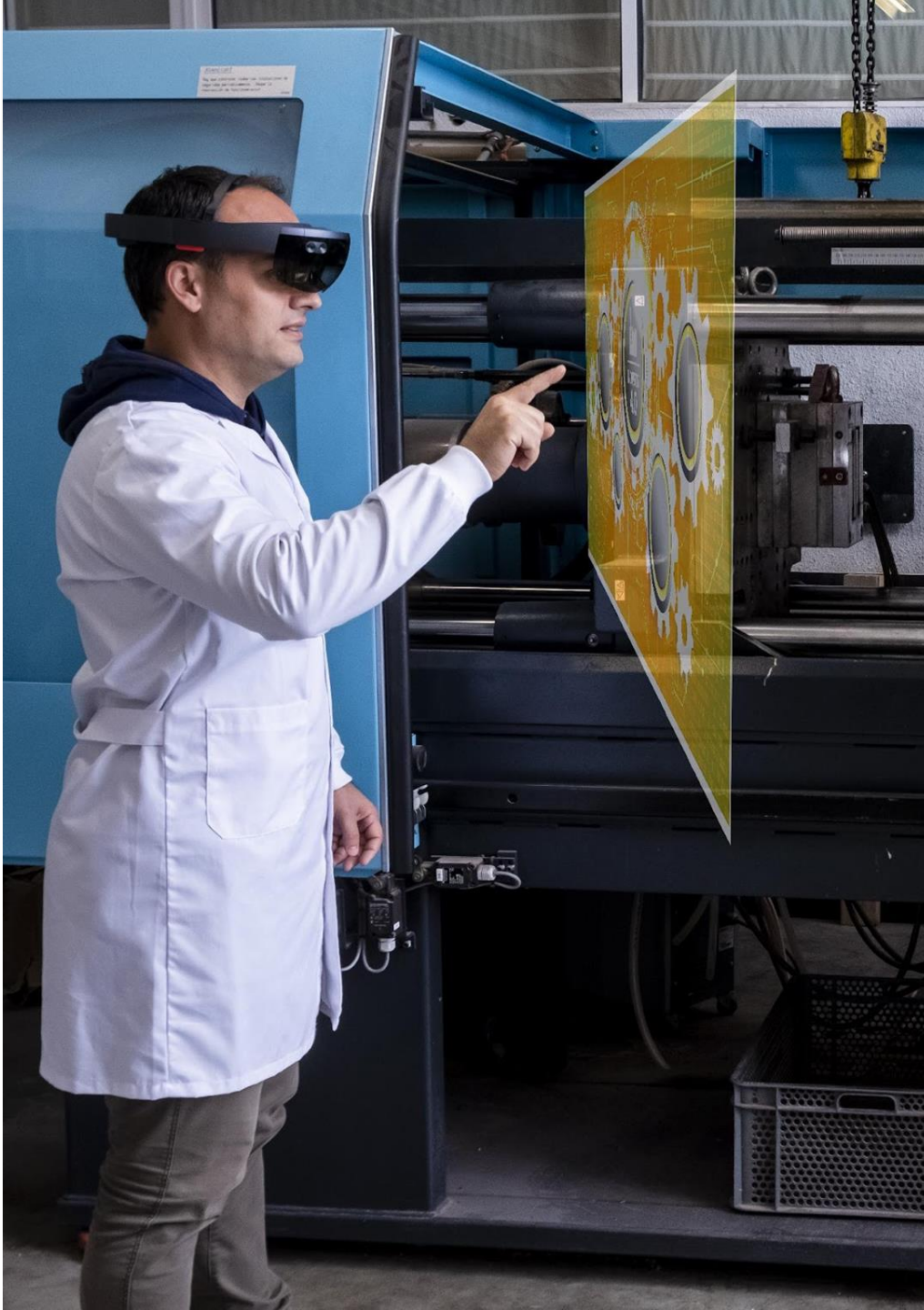


# TECH LAB

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- Videogames and applications of Augmented Reality, Virtual and Mixed in products
- Development and integration of new technologies (IoT, Big Data...)
- Development of educational robotics
- Conceptual and 3D design for production
- Design for the adaptation and integration of new electronic components in products
- Customization of products for special needs





## INDUSTRY 4.0 LAB

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**Digitalization of industrial processes and incorporation of new ICT technologies.**

- Industrial digital diagnostic
- Implementation of new technologies
- RFID readers
- Sensors
- Artificial vision
- Augmented reality
- Sensor incorporation in machines for data acquisition
- Artificial intelligence
- Big data
- Improve manufacturing processes



## CHILD LAB

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**Controlled environment with video monitoring to analyze children and families behavior.**

- Children and families centered research
- Parents lifestyles and insights
- Children's profiles and insights
- Toy trends & childcare products' trends
- Consumers acceptance
- Best design options for children / mums
- Checking concepts by kids' experts
- Innovation workshops



## TOY LAB

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400m<sup>2</sup> laboratory to test usability of toys with video control system.

- Close collaboration with 500 teachers and experts in education, universities and research centers as well as 200 elderly care and leisure centers
- Discussion groups with children and families experts

Database of over  
**9,400** families,  
**20,000**  
children/year

Network of  
**400** European  
Toy libraries  
and schools





## e-HEALTH LAB

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- Customization of products for special needs
- Therapeutic leisure for health
- e-Inclusion
- Social games and ICT
- Videogames and applications of Augmented Reality, Virtual and Mixed in products





**PARTNER YOU  
IN YOUR NEXT  
CHALLENGE!**

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 **aiju** INSTITUTO TECNOLÓGICO  
DE PRODUCTO  
INFANTIL Y OCIO

**FUTURE BUSINESS**

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