

# AI for Manufacturing

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Univ. Grenoble Alpes  
*University of innovation*

*Institute to support the development of education, research and transfer in AI, at the service of human beings and the environment*

MIAI Institute:  
seizing new opportunities  
in Artificial Intelligence

Director: Eric Gaussier

MIAI  
Multidisciplinary  
Institute in  
Artificial Intelligence

- Develop a world-class interdisciplinary research in AI and AI for the human beings and the environment
- Offer attractive courses in AI and its applications for students of all levels and all ages and professionals
- Sustain innovation in AI and develop AI in major companies, SMEs and start-ups
- Inform and interact with citizens on all aspects of AI

MIAI, Industry  
of the Future  
Programme

## Academic Partners



### NEXT STAGE AI

Axis 1. Machine learning and reasoning (8)

Axis 2. Embedded AI & hardware architecture for AI (3)

Axis 3. Perception and interaction (7)

- Deep learning, Neural network, Fair AI
- Neuromorphic architectures, distributed intelligence
- Computer vision, Speech and natural language processing, Robotics

### AI FOR HUMAN BEINGS AND THE ENVIRONMENT

Axis 4. AI and society (4)

Axis 5. Health (4)

Axis 6. Environment and energy (4)

Axis 7. Industry 4.0 (2)

- AI regulation, Integration of AI into society
- Real-life 4P medicine, Multi-omics, C-A medical intelligence
- AI solutions for natural disasters, Optimizing energy management
- Human-centric manufacturing, Predictive quality

## Educational Programme

Goal: Train students and professionals in AI (AI experts) and AI applications (AI practitioners) at all levels (undergraduate, graduate, PhD)

# MIAI Industrial Partners: initial set

23 big companies



21 small and medium companies



11 very small companies



How to become a partner?  
Automatically when you are involved in a MIAI project

## Main Partners

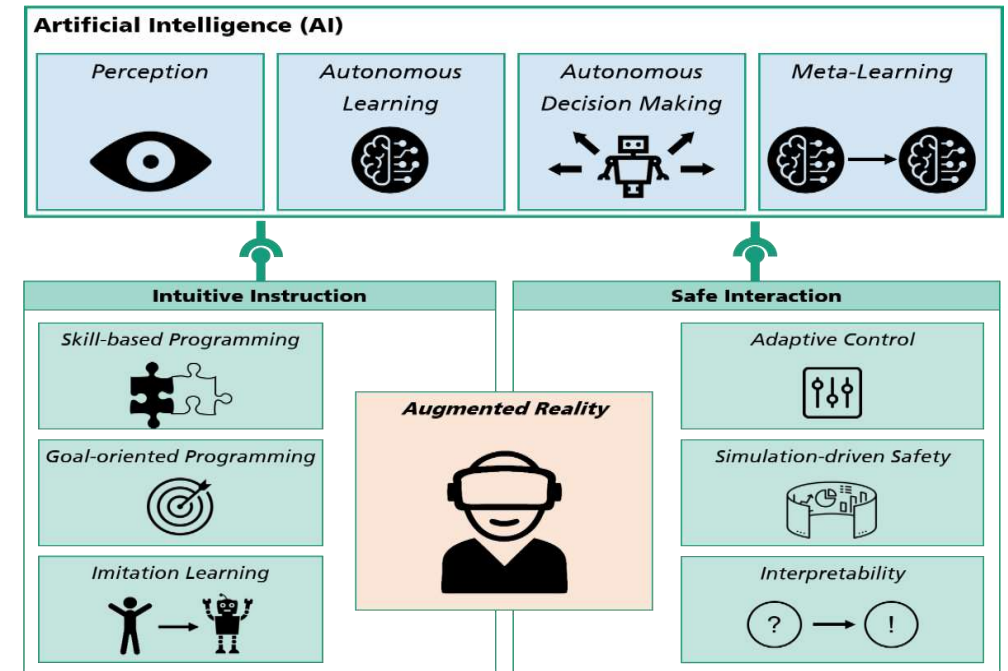


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## AI enhanced Human Robot Collaboration

- Flexibility and adaptability for high degree of personalization in production
- Safe and intuitive Human-Robot collaboration enhanced by augmented reality



## Main Partners



## AI for quality and safety of products and systems

- To diagnose in advance problems that are forthcoming on products and equipment
- Data analytics driven by process data
- Application to predictive maintenance
- Extraction of classification models from database
- Simulation to generate data
- Machine learning for material design and defect recognition

## Main Partners

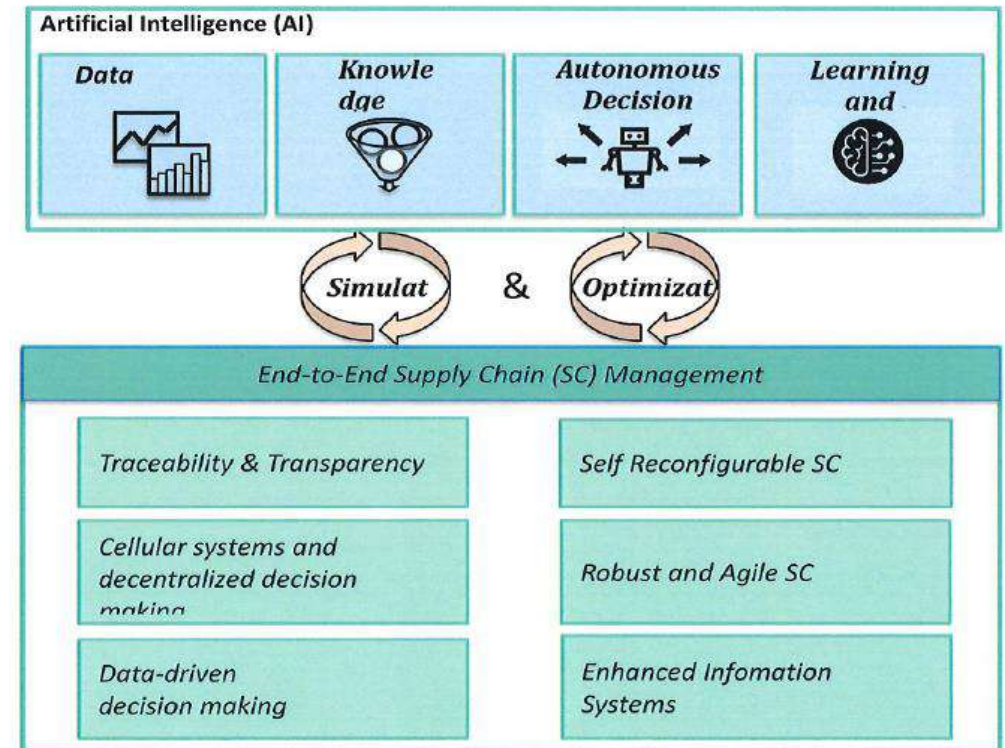


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## AI for data-driven and self-configurable supply chains

- React fast with higher uncertainties in demand forecasting (predictive analytics) and optimization (prescriptive analytics)



Thanks for your kind attention

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