Project idea/ Field of expertise:	**Development of the futur Manufacturing Systems**
Organisation Name:	Arts et Métiers Metz / LCFC : Design, Manufacturing Engineering and Control Laboratory
Adressed challenge(s)/ PPP(s):	Development of the futur Manufacturing Systems : Efficient and safe manufacturing - Robotix
Adressed topic(s) in Work Programme:	Factory of the future / Advanced manufacturing processes

Design, Manufacturing Engineering and Control Laboratory

Challenge : Development of the futur Manufacturing Systems

- **Integrated Product / Process / Manufacturing System Design**

Industrial chair in Agile, Safe and Efficient Manufacturing system

- *Human-Safety integration in Manufacturing System Design framework*
- *Design framework of Agile Manufacturing Systems*
- *Manufacturing system optimization (human factor and reconfigurability*
- *Datamining for Manufacturing system improvment*

- **Control of the manufacturing systems**

Robotized Processes:
Milling, grinding, forging, stripping, FSW, sanding

- **Advanced manufacturing processes optimization : robotized forging**

LEADING MANUFACTURING INNOVATION IS MADE BY EUROPE

Project ideas / Looking for partnership

- DT-FOF-11-2020: Quality control in smart manufacturing (IA)
  - *Scope :* To address the challenge of data reliability, ….. to ensure optimal manufacturing quality, suitable modelling and simulation approaches, … data fusion
  - *Our expertise:* quality and uncertainty management during the product and manufacturing process design, tolerancing of hyperstatic parts assembly, optimization of inspection activities under uncertainty, datamining for manufacturing system improvement, industrial use cases.
  - Contact: Pr. Jean-Yves Dantan

- Robotics
  - *Scope :* process robotization, stiffness robot modelling, external robot control for process quality optimization
  - *Our expertise:* Control of the manufacturing systems (high performance control with robots, path planning, optimized task placement), robotized manufacturing process (Milling, grinding, forging, FSW, sanding, stiffness modelling, calibration), cobot for agile parts handling or assembly (stripping, active force control), wire-arc welding for additive manufacturing with robots.
  - Contact: Pr. Gabriel Abba

Consortium (if any)

Known partners / Competence offer			
Name	**Type**	**Country**	**Role in the project**
Institut de Soudure	RC	FR	Development, tests, welding processes
Manoir Industrie	SME	FR	Metal parts production

Partner search			
Profile	**Type**	**Country**	**Role in the project**
Company		all	Consortium leader

Contact details

Contact person	
Organisation:	Arts et Métiers ParisTech- campus de Metz : Design, Manufacturing Engineering and Control Laboratory
Adress	4 rue Augustin Fresnel, 57078B Metz cedex 3 - France
Phone	33 (0) 3 87 37 54 66
E-mail	{patrick.martin;jean-yves.dantan;gabriel.abba}@ensam .eu