

Intelligent Multi-material and Additive Manufacturing Pilot line



AIMEN IN A NUTSHELL

Founded: 1967

Location: O Porriño, Spain

Technology: Additive

Manufacturing by Direct Energy Deposition

Industry: Aeronautics, Automotive

Website: www.aimen.es



ABOUT AIMEN

AIMEN is a Non-Profit association, which supplies technological support to companies dedicated to industrial or commercial activity related to metallurgy, automotive sector, civil construction, mechanics, shipbuilding, chemicals, foundry, machinery, ceramics, food, cement, wood and its by-products, plastics, engineering, assembly and others. AIMEN promotes and undertakes research, as well as improves manufacturing technologies in these sectors. Located in the Northwest of Spain, AIMEN is a highly professionalized organisation specialised in Materials Science, Manufacturing Process Engineering, Control Engineering, and Laser Processing. Its mission is to improve competitiveness and technology know-how of Manufacturing Industry.

AIMEN PILOT LINE

iM2AM (intelligent Multi-material and Additive Manufacturing) Pilot line by AIM (ES) owning technology for the manufacturing of 3D metal/composite multi-material components by Automated Tape Laying process.

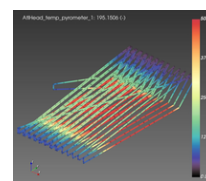
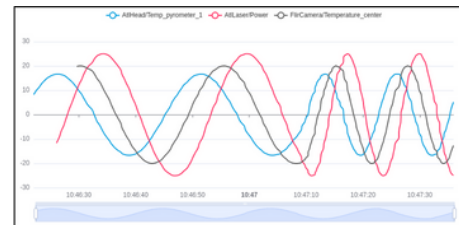
Technologies deployed in this Open Pilot Line focus on process monitoring and orchestration using Asset Administration Shell (AAS) as key enabler for production reconfigurability.



AIMEN's orchestrator tool allows the implementation of Plug and Produce concept as well as process monitoring by modelling the different assets using Asset Administration Shell.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 870092.



Check Youtube Video

SERVICES OFFERED



1

Viability study

Production line digitalization using Asset Administration Shell using Orchestrator tool considering particular conditions.

2

Process development

2.1 Process monitoring:

Gathering data of a new sensor/device based on Asset Administration shell and data recording in HDF5 file format.

2.2 Digital Twin:

- AAS: Assets modelling using Asset Administration Shell and following IDTA submodels specifications.
- Product and Process digital twin: visualization of process monitoring data in a 3D model representation.

3

Training

- Basic principles of Asset Administration Shell modelling.
- Guidelines for deploying active Asset Administration Shell using Common Information Models and VDI/VDE 2139.



VALUE PER SERVICE

- Viability study: 10k EUR
- Process and product visualisation via Digital Twin: 80k EUR