

## **InSPiRATiON: Integrate and Sustainable PRocesses and mATerials for smart ON demand laser additive manufacturing**

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The manufacturing industry plays a central role in the European Union's economy. The digitization of this industry, in the new industry model 4.0, will lead to radical change in the factories model of work as Cyber Physical Systems (CPS), consisting of key concepts such as Internet of Things (IoT), Big Data, Cloud Computing connected with the virtual environment and Autonomous Robots and Additive Manufacturing (AM) for the physical environment, will represent the extensive integration of production, sustainability and customer satisfaction, forming the basis of the intelligent network of systems and processes.

The memory show an overview of the results in the development of the InSPiRATiON project aims to develop an innovative and integrated prototype of flexible and sustainable production both from the environmental and the economic point of view through laser additive manufacturing technology. Metal and ceramic materials will be used in the form of powder produced by plasma technology using secondary materials (scrap and wastes).

The prototype made up of interlaced production modules named "InSPiRATiON Technological Demonstrator". The validation of the technological demonstrator in the technical aspect is on progressrealizing the production of functional components in the biomedical and aerospace sector.