TI4AM

CRM Group has just signed a new research contract with the European Space Agency (ESA). This new project aims to develop new titanium alloys for additive manufacturing (AM, or 3D printing) targeting high-end structural performance applications. This project will continue the current activities dealing with the development of new aluminum alloys for AM.

The aim of this new project is to propose and demonstrate a new method to develop and test a new titanium alloy with high mechanical properties for AM, avoiding the classic development route.

This will be achieved through alloy design, microstructure modelling and casting followed by a test of the selected alloys on Laser powder bed fusion (L-PBF) machine together with an evaluation of the compatibility with Electron Beam Melting (EBM) and Laser Metal Deposition (LMD) processes.

The consortium will identify a series of targeted material properties to address specific needs of the space sector. Based on these targeted properties, the consortium will conduct a literature survey supported by modelling activities to identify up to ten potential candidate alloy compositions.

International Partnership

One of the strengths of the consortium is its complementarity, which will lead to improved efficiency. Indeed, except atomizing of the big titanium batch, which will be performed under supervision of CSM-SPA, all the activities are performed within consortium at existing premises. The partners are **CRM Group, SABCA, Any-Shape, CSM Spa (Italy), UCLouvain and POLIMI (Italy)**.

All those activities allow covering the whole chain of value and will ensure a fast and efficient transfer of the alloy to the aerospace industry, under Belgium/Italy collaboration.