



CT successfully advances the Andromeda project for LMD additive manufacturing of larger-sized parts

- Two years since the launch of the Andromeda R&D project, the consortium made up of CT, Delaser (project leader) and AIMEN (collaborating entity) has taken large steps toward completing the project's mission: to develop a flexible and holistic solution for additive manufacturing which converts material input into larger-sized components.
- The work of the teams involved has progressed in parallel, from the end-to-end virtualization of the manufacturing system to the development of programs and tests in the work cell that will be used to manufacture the demonstration part.

Madrid, March 26, 2020,- CT, a leader in providing innovative technological engineering solutions for the entire product life cycle, has entered into the home stretch of the Andromeda R&D project, in which it works with its partner Delaser (before GNC-Laser) and the collaborating entity AIMEN. The project objective is to provide sectors such as aerospace, energy or tooling a system to manufacture, industrialize and validate larger-sized (more than one meter) components, through LMD additive manufacturing.

Launched at the end of 2017, Andromeda proposes to reduce production costs by 30%. To do so, the teams have perfected the architecture of the data upon which the end-to-end manufacturing system is built, capable of covering the entire manufacturing chain and providing support for the virtualization of the distributed manufacturing process. This system will ensure the traceability of the work, thereby allowing real time responses to any variation in the process and a zero-defects manufacturing strategy.

Last year the first test pieces were made based on the demonstration part selected, a ring belonging to the VEGA space launcher. Since then, the collaborating companies have advanced in the use of new software to program the demonstration model, which is highly complex due to its shape and size, and they have managed to generate programs for the work cell that Delaser has in its facilities. This has made it possible to make new test pieces in the work cell itself.

Another key aspect of the project is the "Modelling and simulation of the additive manufacture process". CT has continued working on the correlation of the



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distortions of the manufactured test pieces to guarantee the best methodology to simulate the objective part.

This national initiative, which is included within the international project of the same name, Andromeda, has been presented in various national and international fairs, such as ADDIT3D in Bilbao, where Delaser gave it a prime space in its stand (coinciding with the meeting of the consortium and the 2018 annual follow-up audit), and FORMNEXT, the largest additive manufacturing event in Europe, held last November in Frankfurt. AIMEN manufactured a scale model of the demonstrator for this event, exhibiting it in the ADDIMAT pavilion. The diffusion material included the piece itself, a project presentation and a video of the scaled demonstration part.

The three-year project is financed nationally by CDTI's INNOGLOBAL 2017 program, and co-financed by EU Structural Funds and supported by the Spanish Ministry of Economy, Industry and Competitiveness. The international projected was approved under the EUREKA Cluster Metallurgy Europe 2015 call.

About CT

CT provides engineering services in the aeronautical, naval, automotive, rail, energy, industrial plants, architecture and construction sectors. CT covers the entire life cycle of the products, from product design engineering, manufacturing engineering to post-sales support engineering. CT has more than 1,700 employees and a network of offices in Spain, France, Germany, Portugal, the United Kingdom, India and Brazil. CT is a supplier of engineering services in design, manufacturing, assembly and maintenance phases for the civil and military sector. CT is the only Spanish supplier of product engineering (E2S) and manufacturing (ME3S) for Airbus in the world and a preferred supplier of engineering for Navantia. Other relevant works stand out, such as the participation of the CT Architecture division in the La Sagrada Familia project or the Automotive Engineering division in the Medina-Mecca AVE.

For more information:

The CT Engineering Group
Communication Department

dmiancu@ctingenieros.es

+34 91 683 20 30