



Flying with spread wings

Focusing on laser welding of titanium structures for aeronautics

The Elios (Emergent Laser Fiber Optic Welded Structures) research and training project, promoted by Consorzio Calef, Centro Sviluppo Materiali and the Università di Napoli Federico II, is supported by the Ministry through European funds to improve the competitiveness of companies and the youth employment prospects. The goal of this project is to develop technologies for the reduction of time and costs to produce titanium structural components employed in modern ai-

craft, replacing the current milling machining from solid with the laser welding of thin semi-finished products. While the research goes on, aiming to create an innovative laser processing station and a qualification of the processes for the realization of specific demonstrators, young researchers and technicians are being prepared to meet the demands of the companies in this field and to promote the constitution of an innovative production

chain for aeronautics. The skills of people are in fact the real engine to develop the competitiveness of a country, and especially of the southern regions involved in this project. Eight university graduates and six high-school graduates follow a theoretical and practical course, held at the Università di Salerno, where professors and industry experts prepare the future professionals of laser technology in the welding industry for 18 months. The wide stage of "training on the job", at the shareholders of Con-

alongside professors, researchers and industrial technicians, in the use of cutting-edge laboratory equipment for the qualification of materials and processes. Furthermore, thanks to the installation of a new 10 kW- fiber laser source and the development of a special prototype processing station at the Università di Salerno, trainees have the opportunity to operate in a new laboratory, in the running to become a national center of excellence in the development of laser welding processes. This center will represent an aggregation point in Campania for the academic and the industrial worlds, capable to promote new research at national and European level. At the conclusion of this project, the center will tackle new challenges within this field, also in terms of training, which may be proposed by the partner promoters (Consorzio Calef and the Department of Chemical Engineering, Materials and Indu-

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craft, replacing the current milling machining from solid with the laser welding of thin semi-finished products. While the research goes on, aiming to create an innovative laser processing station and a qualification of the processes for the realization of specific demonstrators, young researchers and technicians are being prepared to meet the demands of the companies in this field and to promote the constitution of an innovative production

sorzio Calef participating to the project (the Università di Salerno, Alenia Aermacchi, Lasit, Enea and the Politecnico Università di Bari), and at the laboratories of Csm and of the Università di Napoli Federico II allow the trainees to engage,

strial Production of the Università di Napoli Federico II) but also by the companies of the territory and of the country wanting to invest in competitiveness, introducing process and product innovations using laser technology. **-G.B.-**

