

CSIR launches titanium additive manufacturing technology

Business Day reports that Project Aeroswift, an initiative of South Africa's Council for Scientific and Industrial Research (CSIR), would seed a new sector in titanium beneficiation and push SA to the forefront of aerospace manufacturing, CSIR's CEO, Sibusiso Sibisi, said.

The R28m project is a collaboration between the government, the National Research Foundation, the Aerospace Industry Support Initiative, aircraft parts manufacturer Aerosud and the CSIR's National Laser Centre. Aeroswift project involves the manufacture of niche, high-value, low-volume parts from powdered titanium.

Titanium, which is very expensive, is used widely in the aerospace, satellite and medical industries for its strength-to-weight ratio and noncorrosive properties. "SA is the second-largest supplier of (titanium) mineral ore ... but adds little value to that before export," Deputy Science and Technology Minister Derek Hanekom said at the launch of the project. "The CSIR has developed a novel process whereby titanium metal powder can be produced from our abundant mineral resource. Currently the primary titanium process is being commercialised and a pilot plant will be built during the year."

Using a R10m specialised laser, bought by the CSIR, "this system will be the first of its kind in the world as it will be able to build (larger) parts;" said Prof Federico Sciammarella, competency area manager with the National Laser Centre. "This is critical when making components for the aerospace industry that require precision and high quality". Already the platform was 8,3 times faster than traditional systems, but could operate faster still, "This system will place SA on the forefront of additive manufacturing technology and enable the aerospace industry to produce parts for the global community." Sciammarella told *Business Day*.

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