PRESS RELEASE

Safran and SLM Solutions evaluate SLM® technology for Additively Manufactured Main Fitting of a Bizjet

Lübeck (Germany), March 29, 2021.

In a joint project, Safran Landing Systems and SLM Solutions tested Selective Laser Melting to produce a component of a nose landing gear for a bizjet. A world first for a part of this size.

The joint objective of the project is to demonstrate the feasibility to produce a main fitting by Selective Laser Melting process. The component was therefore redesigned for metal-based additive manufacturing allowing time saving in the whole process, and significant weight reduction about 15% of the component.

Due to the stringent requirements of this component, which is one of the parts that transfers the loads from the wheel to the aircraft structure and is retracted after take-off, Safran selected the titanium alloy, as it is a material with high mechanical properties, naturally resistant to corrosion, which does not require any surface treatment. Additionally, it helps increasing part durability.

Thierry Berenger, Additive Manufacturing project leader at Safran Landing Systems says: “We chose SLM Solutions as a partner, because of their expertise and the SLM®800 machine, which exactly meets our requirements in terms of machine size and reliability.”

With a vertically extended build envelope, the SLM®800 is perfectly adapted to produce large components. The machine is equipped with SLM Solutions’ proven quad-laser technology and innovative features, like the patented gas flow and a permanent filter, that ensure highest reliability.

One of the strengths of the SLM® technology is its flexibility. Design changes can be quickly modified, printed and tested, then less time is spent during the prototype development.

Gerhard Bierleutgeb, EVP Global Services & Solutions at SLM Solutions explains: “Additive manufacturing contributes to save time in the qualification and certification phases by rapidly providing the parts for testing. We were able to produce the main fitting in few days on the SLM®800, vs few months with the forging process.”

Part Information:

- Measurements: 455x295x805 mm
- Material: Titanium
- Machine: SLM®800

This new design invented by Safran Landing Systems, meeting ambitious resistance and mass reduction objectives, is patented.

About SLM Solutions:

SLM Solutions *is an integrated solutions provider and metal additive manufacturing partner. The company takes a vested interest in customer’s long-term success with metal additive manufacturing. Robust Selective Laser Melting machines optimize fast, reliable and cost-efficient part production and SLM Solutions’ experts work with customers at each stage of the process to provide support which elevates use of the technology and ensures their return on investment is maximized. A publicly traded company, SLM Solutions Group AG is headquartered in Germany, with offices in Canada, China, France, India, Italy, Russia, Singapore and the United States.*

About Safran:

Safran *is an international high-technology group, operating in the aviation (propulsion, equipment and interiors), defense and space markets. Its core purpose is to contribute to a safer, more sustainable world, where air transport is more environmentally friendly, comfortable and accessible. Safran has a global presence, with 79,000 employees and sales of 16.5 billion euros in 2020 and holds, alone or in partnership, world or regional leadership positions in its core markets. Safran is listed on the Euronext Paris stock exchange and is part of the CAC 40 and Euro Stoxx 50 indices.*

Safran Landing Systems *is the world leader of aircraft landing and braking systems. The company has partnerships with 30 airframers in civil, regional, commercial and military transport, and equips 27,800 aircraft.*

For more information: https://www.safran-group.com and https://www.safran-landing-systems.com / Follow @Safran and @SafranLandingS on Twitter.

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