

Press release

Prometheus: testing of the future lox-methane engine demonstrator begins

Vernon/Ottobrunn, 14 December 2018

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- **Prometheus is a very low cost and potentially reusable European engine demonstrator intended for use by Europe's launchers by 2030**
 - **Testing of the 3D-printed gas generator is under way at the DLR site in Lampoldshausen, Germany**
 - **The engine's Design Review began on 30 November at the Vernon and Ottobrunn sites and is scheduled to close in January 2019**
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Exactly one year after the signing of the Prometheus demonstrator development contract between the European Space Agency (ESA) and ArianeGroup, testing of the 3D-printed gas generator has started at the DLR site in Lampoldshausen, Germany.



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Prometheus is a European demonstrator for a very low cost reusable engine operating on liquid oxygen (LOx) and methane. It is the precursor of the future engines for Europe's launchers by 2030.

The aim is to be able to produce future liquid propellant engines at a unit cost which is 10 times less than the cost of building the Vulcain®2 type engine today. The success of a technological challenge of this nature rests on a completely new design and the use of innovative methods and resources in both design and production.

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In addition to a change in the traditional Ariane propellants (i.e., the transition from a liquid oxygen and hydrogen to a liquid oxygen and methane), the demonstrator will incorporate a number of key changes, including digitized control and engine diagnostics, as well as construction using 3D printing, in a connected factory environment.

"The success of the gas generator campaign as well as, compliance with the scheduled Prometheus design review date, is excellent news for the development of the European technologies of tomorrow and the future of Europe's launchers. It is vital to demonstrate the pertinence of our technological choices, less than a year before the ESA Ministerial Conference which will decide the evolution of Ariane 6", said Alain Charmeau, CEO of ArianeGroup.

The next major steps of the program are the completion of the subsystem tests and the start of production of the two demonstrators in the first half of 2019. Testing of the first two examples of this Precursor is scheduled on the P5 test stand at the DLR (Deutsches Zentrum für Luft- und Raumfahrt) in Lampoldshausen, starting in 2020.

Prometheus is an ESA program, initiated with the French space agency Centre National d'Etudes Spatiales (CNES) in November 2015.

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About ArianeGroup

ArianeGroup develops and supplies innovative and competitive solutions for civil and military space launchers, with expertise in all aspects of state-of-the-art propulsion technologies. ArianeGroup is lead contractor for Europe's Ariane 5 and Ariane 6 launcher families, responsible for both design and the entire production chain, up to and including marketing by its Arianespace subsidiary, as well as for the missiles of the French oceanic deterrent force. ArianeGroup and its subsidiaries enjoy a global reputation as specialists in the field of equipment and propulsion for space applications, while their expertise also benefits other industrial sectors. The group is a joint venture equally owned by Airbus and Safran, and employs approximately 9,000 highly qualified staff in France and Germany. Its 2017 revenues amounted to 3.4 billion euros.

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