

ArianeGroup signs contract with ESA for future Prometheus engine

- **Prometheus is a European demonstrator for a very low cost engine running on liquid oxygen and methane, versions of which could be powering European launchers as of 2030**
- **ArianeGroup is committing numerous resources to the development of this new engine**
- **The first tranche of this contract was signed in June 2017, at the Paris Air Show**

Prometheus is a European demonstrator for a very low cost reusable engine, running on liquid oxygen (LOx) and methane. It is the precursor for future European launcher engines as of 2030.



The aim is to be able to build future liquid propellant engines with a unit cost of about 1 million euros, or 10 times less than the cost of producing existing engines such as the Vulcain@2. The success of this type of technological challenge demands an entirely new approach and the use of innovative design and production methods and tools. Apart from switching from the traditional Ariane propellant (transition from the liquid oxygen and liquid hydrogen combination to a combination of liquid oxygen and methane), the demonstrator will entail major developments, including digitization of engine control and diagnostics, and manufacturing using 3D printing in a connected factory environment.

The 75 million euro contract signed today by Daniel Neuenschwander, Director of Space Transportation at the European Space Agency (ESA), and Alain Charneau, CEO of ArianeGroup, the 50/50 joint-venture set up by the Airbus and Safran groups, covers the design, manufacturing and testing of the first two examples of the Prometheus demonstrator. The French space agency (CNES) is leading in the early design process, and testing is scheduled on the P5 test bed of the German Aerospace Centre (DLR) in Lampoldshausen, Germany, as of 2020.

“The development of Ariane 6 is on track, with a first flight scheduled for 2020. This new Prometheus contract with the European Space Agency is paving the way for the future of European launchers, with the goal of designing and building a reusable engine for one tenth the cost of today’s Vulcain@2 type engines. I therefore thank ESA and the Member States for their contribution and their confidence in entrusting us with the development of the European technology of tomorrow.”

Following the initial phase which was completed in early December, the first Program Review confirmed the consistency of the design choices with engine specifications and in particular with the recurring cost targets. At the same time, subsystems testing has started with the gas



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Press release

generator campaign (one of the parts built using 3D printing) on the DLR's P8 test bed in Lampoldshausen.

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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 nearly 9,000 highly qualified staff in France and Germany. Its estimated proforma revenues exceed 3 billion euros.

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