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Press release

ArianeGroup signs contract with ESA to develop Themis reusable stage demonstrator

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- **The European Space Agency (ESA) has awarded ArianeGroup the contract for the initial development phase of the Themis reusable rocket stage demonstrator**
 - **This first contract, worth 33 million euros, was awarded to ArianeGroup following preparatory work done by ArianeWorks, the innovation accelerator platform created by the French space agency CNES and ArianeGroup**
 - **Themis, powered by the Prometheus engine, will enable Europe to develop technologies for future low-cost reusable launchers**
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ArianeGroup has received a 33-million-euro contract from the European Space Agency (ESA), to begin the first development phase for the Themis reusable rocket stage demonstrator. Themis will use Prometheus, the very low-cost rocket engine demonstrator currently under development as an ESA programme.

The aim of the project, developed through the ArianeWorks platform, is to demonstrate Europe's technological capacity in the field of reusability so that by 2022 the ESA member states will be in a position to determine the range of launchers most suited to the needs of Europe around 2030 based on available technologies, the requirements of Europe, and the evolution of the global space market.

"In a global context where the leading space powers are investing heavily in their launch systems and developing technologies with a focus on competitiveness, even domination, the sustainability of European access to space is more than ever a strategic issue. It is therefore essential to develop today the technologies that will be part of the launch vehicles of the next decades. This first contract for the development of a reusable rocket stage demonstrator is a clear sign of this ambition," said ArianeGroup CEO André-Hubert Roussel. "Powered by the Prometheus engine demonstrator, running on liquid oxygen-methane or oxygen-hydrogen combinations, Themis will lead to the proving and development of very low-cost launcher solutions, while contributing to energy transition to a more eco-responsible space launcher sector."

The first prototype of the very low-cost, potentially reusable engine Prometheus is currently being assembled. It was developed for ESA on the ArianeGroup sites of Ottobrunn in Bavaria (Germany) and Vernon in Normandy (France), and is due to be tested at the German Aerospace Centre (DLR) facility in Lampoldshausen (Baden-Württemberg, Germany).

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Prometheus is developed under ESA contract and is the precursor of future European space rocket engines. It could be in use beginning in 2025 on an Ariane 6 potential evolution and is also designed to equip a retro-firing landing stage. It is therefore a key technological step in Themis development.

The Themis program is the first “agile” development deployed on a large scale in the space sector in Europe. Pre-developed in under a year by the ArianeWorks innovation accelerator platform (a cooperation between ArianeGroup and CNES), it was approved at the ESA “Space 19+” Conference last year. The Themis demonstrator should make it possible to fast-track trial of all the technological building blocks necessary for reusability of a complete rocket main stage. A first full-scale tank has already been installed on the PF20 test zone at ArianeGroup’s Vernon site, where Ariane 1 was tested.

The Themis team already brings together French, Swedish, Belgian, and Swiss industrial partners, and will be expanded to include other European partners in the coming months to prepare for the up-coming phases. Sub-orbital flight tests are scheduled to begin in 2023 from the Guiana Space Centre (CSG) in Kourou, French Guiana.

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 2019 revenues amounted to 3.1 billion euros.

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