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TEST OF A HIGHLY REUSABLE LOX/METHANE GAS GENERATOR DEMONSTRATOR IN A
FLIGHT-LIKE CONFIGURATION**Abstract**

LOX/Methane is currently regarded worldwide as a propellant combination for future expendable and reusable launch vehicles.

ArianeGroup has been investing for a few years in a Research Technology program aiming at developing highly reusable LOx/Methane engine technology. This program led to the design and manufacturing of the key sub-systems of a 400kN class thrust chamber, gas generator and turbopump, the latter was performed in cooperation with IHI Corporation, Japan.

In late 2017, ArianeGroup took a new step towards mastering highly reusable LOx/Methane propulsion with a test campaign of the demonstrator gas generator equipped with a flight-representative feed-system as well as with advanced propulsion technologies.

The purpose of the paper is to present the main objectives that have been under investigation during this sub-system test campaign in order to prepare future integrated tests and to increase maturity in advanced propulsion technologies.