

# PROMETHEUS<sup>®</sup> tests on T1Bench in Vernon

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PROMETHEUS<sup>®</sup> is the Precursor of a new liquid rocket Engine family designed for low-cost, flexibility and reusability.

This Project, undertaken through cooperation between CNES and Ariane Group, entered in the ESA Future Launcher Preparatory Programme after the ESA Ministerial Conference in December 2016, with Germany, Italy, Belgium, Sweden and Switzerland joining France in the support of this Programme. The aim of PROMETHEUS<sup>®</sup> project is to design, produce, and test an advanced low-cost 100-tons class LOX/LCH<sub>4</sub> reusable Engine. This Engine, designed for 1M€ recurrent cost, targets also flexibility in operation through variable thrust, multiple ignitions, compatibility to main and upper stage operation, and minimized ground operations before and after flight.

In early January 2021, following the visit of the French President Emmanuel Macron, an agreement preparatory to the testing of the new PROMETHEUS<sup>®</sup> rocket engine at the Vernon site in Normandy was signed. This agreement, funded through the space component of the France Relance recovery plan in support to French industry, allowed to accelerate the PROMETHEUS<sup>®</sup> test schedule whilst settling a new stage test stand in ArianeGroup Vernon test area, the PF20.

This paper presents the global status of PROMETHEUS<sup>®</sup> France Relance test campaign and gives and insight to the stage test stand which was defined on frugal basis, taking maximum benefit of the elements made available by Themis stage first demonstrations.