

Preburner Development for the SCORE-D Liquid Rocket Engine within the Future Launcher Preparatory Programme FLPP

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The Future Launcher Preparatory Programme (FLPP) has been initiated in 2005 to prepare Europe for the decision on its Next Generation Launcher. For this purpose, the design of a mid-scale demonstrator engine (SCORE-D) with a thrust level of about 140 t has started in 2007. Within the framework of the SCORE-D project, Astrium GmbH and Snecma, Safran Group through the Joint Technical Team are jointly developing the preburner. The JTT is set up by Astrium and Snecma members managing the shared development tasks which are split as follows: the functional engineering is conducted by Astrium whereas the mechanical engineering is performed by Snecma. Main focus of this paper is to present the preburner design status as well as the development strategy and planning. In addition, the paper highlights the technology maturation activities that include subscale level testing of preburner configurations that allows JTT to make a risk-informed decision making in terms of performance, reliability, and affordability.