

SPACE PROPULSION SYMPOSIUM (C4)  
Propulsion Technology (3)

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DEVELOPMENT OF COMBUSTION TECHNOLOGIES USING THE DLR P8 CRYOGENIC TEST  
BENCH**Abstract**

Within the frame of cryogenic engines development in Europe, it appeared in the 90's that a test bench able to perform full-scale tests of injectors and/or subscale tests of combustion devices would be a valuable asset for industry in Europe.

Two countries (France and Germany) and two companies Astrium-Gmbh and Snecma) were highly interested to have a Lox/LH2 test bench able to cover TRLs ranging from 4 to 6. Throughout contacts between agencies (DLR CNES) and industries (Ast-Gmbh Snecma), it was decided to design and share a common test bench for a more cost efficient approach.

The acceptance of the new test bench, named P8, was held in 1995 in DLR Lampoldhausen – Germany. Ever since, P8 has been operated by DLR both for Ast-Gmbh and Snecma/CNES in order to assess and mature a wide range of technologies related to cryogenic combustion devices.

This paper presents a brief overview of 15 years of cooperation between France and Germany in the development of cryogenic combustion devices for current and future European rocket engines.