





Vinci® is a new generation of upper-stage cryogenic rocket engine being developed by Snecma in conjunction with European partners, especially EADS ST in Germany.

The first series of firing tests is now under way on a DLR test rig in Germany. Restartable in flight and offering higher performance than the HM7 developed for Ariane 1 to 4 and also used on the Ariane 5 ECA, the Vinci® engine is primarily designed for the next upgrade to the Ariane 5 launcher.

It could also be adapted to meet the requirements of other future-generation launchers or space vehicles.

Characteristics

● Cycle	Expander
● Vacuum thrust	180 kN
● Specific impulse	465 seconds
● Combustion pressure	60 bar (about 870 psi)
● Expansion ratio	240
● Propellants	LH2
● Propellant flowrate	LOX: 33.7 kg/sec – LH2: 5.8 kg/sec
● Mixture ratio	5.8
● Turbopump speed	LOX: 19,500 RPM – LH2: 90,000 RPM
● Turbine power	LOX: 350 kW – LH2: 2.4 MW
● Height	4.20 meters
● Nozzle exit diameter	2.15meters



Uwe W. Jack

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