

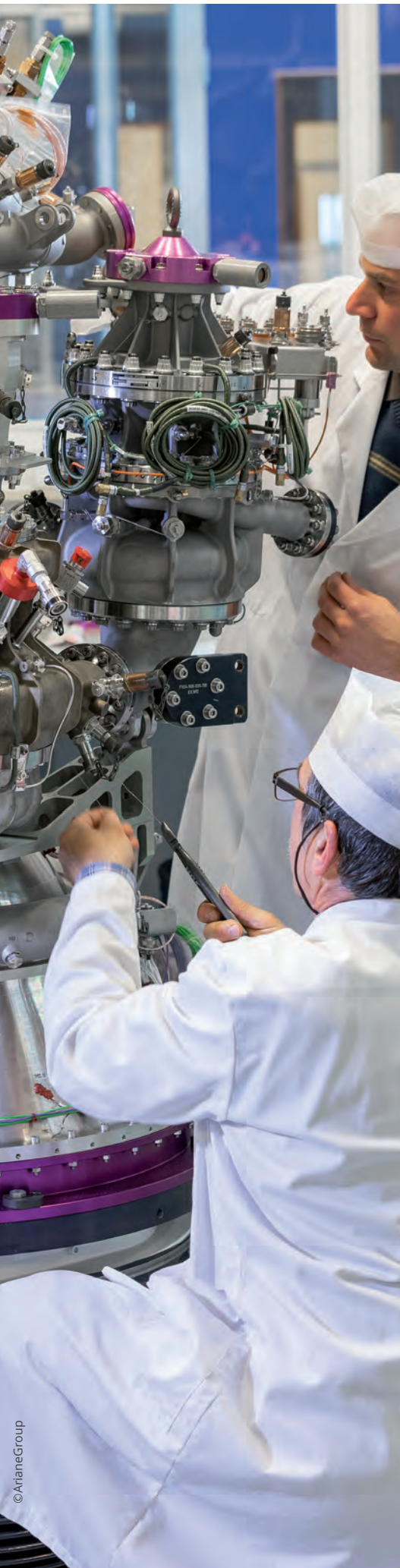


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VINCI[®] ENGINE

PROPULSION SOLUTIONS FOR LAUNCHERS

- › POWERS THE UPPER STAGE OF THE ARIANE 6 LAUNCHER
- › A NEW-GENERATION CRYOGENIC ENGINE
- › THE NEW UPPER STAGE ENGINE BENCHMARK
- › REIGNITABLE, KEY TO ARIANE 6 S EXTREME VERSATILITY
- › QUALIFICATION IN 2018



VINCI® SPACE PROPULSION

A new-generation engine

Vinci® represents the latest generation of cryogenic upper stage engines for space launchers. It is designed to be simple to build and operate.

It is being developed by ArianeGroup in cooperation with its European partners under an ESA* program.

* European Space Agency

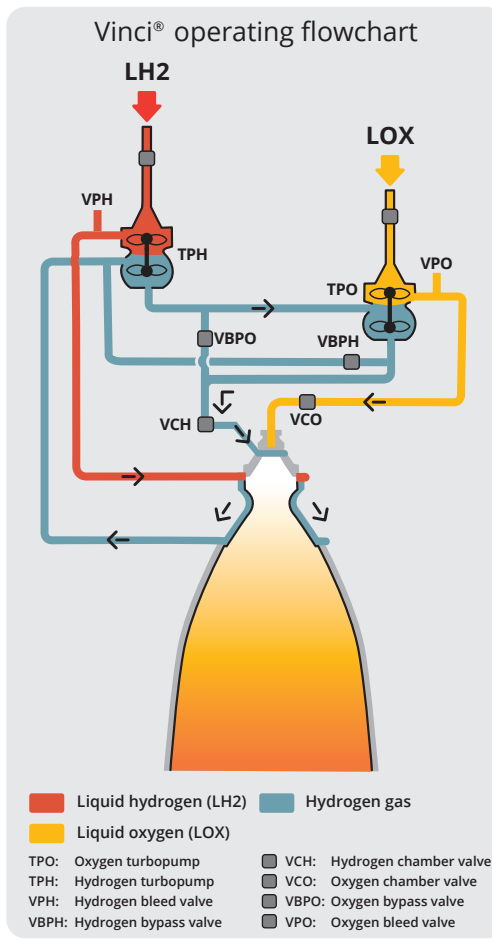
SPECIFICATIONS		
Cycle	Expander	
Vacuum thrust (kN)	180	130
Specific impulse (s)	457.2	458.2
Combustion pressure (bar)	60	45
Mixing ratio	6.1	5.5
Propellants	LOX - LH2	
Propellant flow rate (LOX/LH2, kg/s)	34.11 /	24.20 /
	5.59	4.40
Nozzle outlet diameter (m)	1.84	
Operating points	180 kN	130 kN
TPH rotation speed (rpm)	90,000	70,000
TPO rotation speed (rpm)	18,000	14,000
Height (m)	3.22	

Development expertise

The final test took place on 12 October 2018, completing a qualification campaign of 148 tests, during which the Vinci engine ran for a total of 52,156 seconds (over 14 hours).

Several major firsts in terms of performance were achieved, including

- > a series of 20 successful consecutive boosts during a single 300-second test firing
- > a test with a total duration of 1,569 seconds



The Vinci® engine is reignitable in light and intended for the new upper stage of the Ariane 6 launcher.

It makes a significant contribution to Ariane's performance, carrying a payload of 10.5 tonnes to geostationary transfer orbit (GTO) in the Ariane 64 version, while allowing the development of optimized injection strategies to address all Ariane 6 missions.



Vinci® engine

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