



Salon du Bourget, juin 2017

## AEROSPACE VEHICLES

### Re-entry vehicles: IXV and Space Rider

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A first for Europe: on 11<sup>th</sup> February 2015, from an altitude of 420 kilometers and decelerating from Mach 22 to Mach 2, IXV (Intermediate eXperimental Vehicle) demonstrator performed a controlled re-entry by using aerodynamic control surfaces. For this ESA programme led by Prime contractor Thales Alenia Space - Italy, Dassault Aviation was heavily involved in the design of the outer shape of the vehicle.

In 2017, Dassault Aviation is involved in the Space Rider, the successor of IXV.

### Suborbital vehicles: VEHRA family

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Dassault Aviation is studying a reusable space transportation system to launch satellites into low Earth orbit. It comprises an airborne reusable hypersonic vehicle and a subsonic carrier aircraft. The use of the technique of airborne launch offers an increase of performance with regard to the launch from the ground and allows to free itself from the heaviest constraints of the launch infrastructures. VEHRA (Véhicule Hypersonique Réutilisable Aéroporté) family comprises three vehicles:

- VEHRA "Light" (10 t) : technological demonstrator;
- VEHRA "Medium" (30 t) : to inject small payloads (250 kg) into low Earth orbit;
- VEHRA "Heavy" (200 t) : to launch 7t into low Earth orbit;

Moreover, a manned version is also proposed to carry six people up to 100 km of altitude



*The IXV demonstrator. ©Mourad CHERFI / Dassault Aviation*



*The IXV demonstrator during atmospheric re-entry. ©Mourad CHERFI / Dassault Aviation*



*The suborbital vehicle VEHRA. ©Mourad CHERFI / Dassault Aviation*