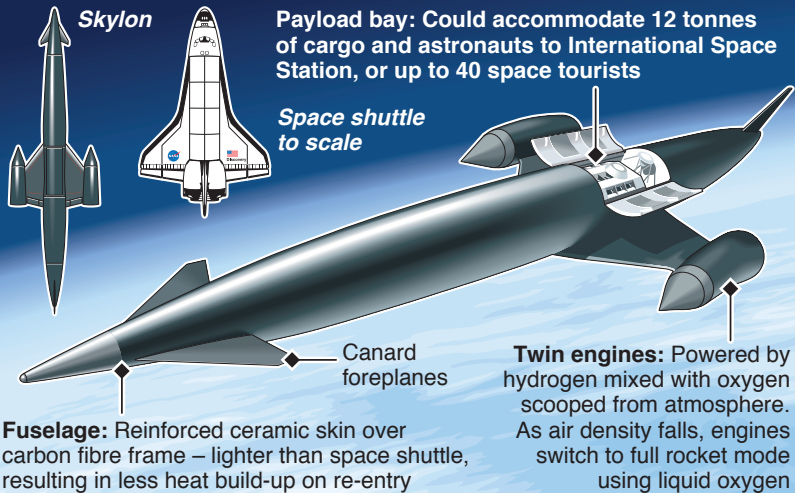


# Reusable spaceplane moves closer to reality

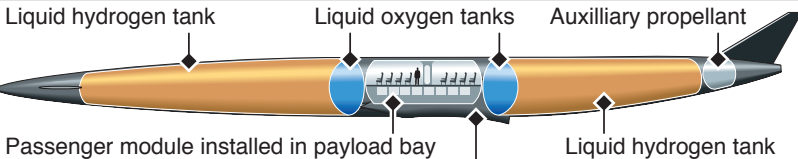
An innovative UK concept for a potential space shuttle successor is to undergo engine tests after passing a European Space Agency review. The *Skylon* spaceplane would take off and land like a conventional aircraft, and use hybrid air-breathing rocket motors to reach orbit



**Length:** 82 metres    **Top speed:** Mach 5.5 in atmosphere, Mach 25 in orbit

**Fuel use:** 80 percent less than standard rocket    **Launches:** 200 per vehicle

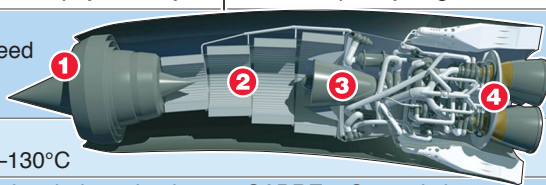
**Estimated development cost:** \$12 billion funding required over 10 years



**SABRE engine** in air-breathing mode would need to cope with air entering **intake (1)** at 1,000°C

**Heat exchanger (2)** instantly cools gases to -130°C

Air is **compressed (3)** before being mixed with hydrogen in **combustion chamber (4)**



**SABRE = Synergistic Air-Breathing Rocket Engine**