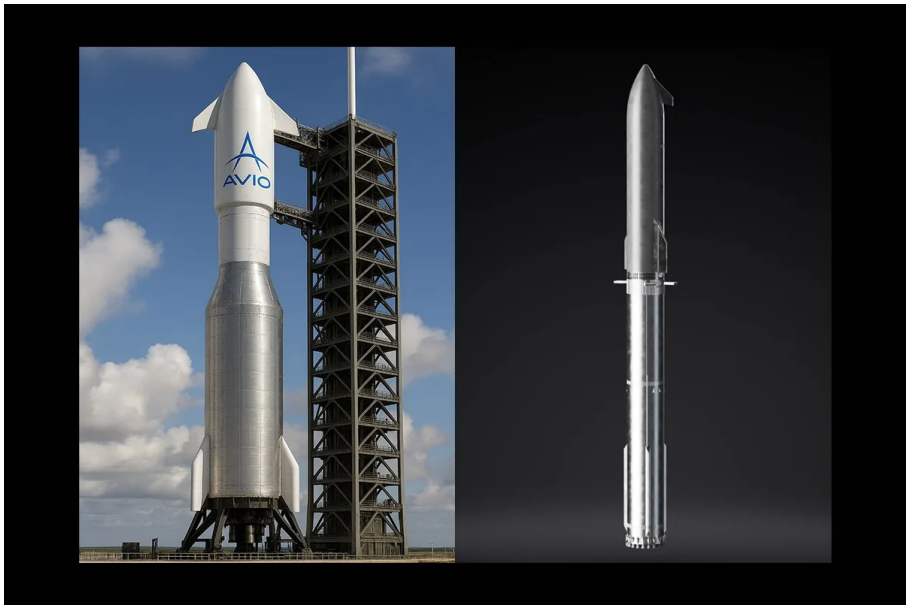

Europe Challenges SpaceX: The New Reusable Rocket by ESA and Avio is Born

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Rome, October 13, 2025 – Europe challenges SpaceX in the space race. During the **International Astronautical Congress in Sydney**, on **September 29, 2025**, the **European Space Agency (ESA)** and the Italian company **Avio** signed a **40 million euro** agreement for the development of a **reusable upper stage demonstrator**, a key technology set to reshape the future of European space launches.

The goal is ambitious: to create a system competitive with American giants, particularly **SpaceX**, which with its **Falcon 9** and **Starship** dominates the global orbital launch market.

A Strategic Alliance for European Space Autonomy

The contract, lasting **two years**, includes the **preliminary design** and the **definition of necessary technologies** for both ground and flight infrastructures. Within a few years, the

program should lead to the creation of a **prototype capable of flying and re-entering the atmosphere**, laying the groundwork for a new type of **efficient and sustainable reusable European launcher**.

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ESA has released on its social channels a **first conceptual rendering**, showing futuristic lines similar to the American Starship: an **autonomous upper stage**, capable of re-entering and being reused multiple times.

“**This contract is important on two fronts**,” said **Toni Tolker-Nielsen**, ESA's director of space transportation. “**In the short term, we address technological challenges, but in the long term, we lay the foundations for Europe's space future**.”

Key Technologies and Industrial Impacts

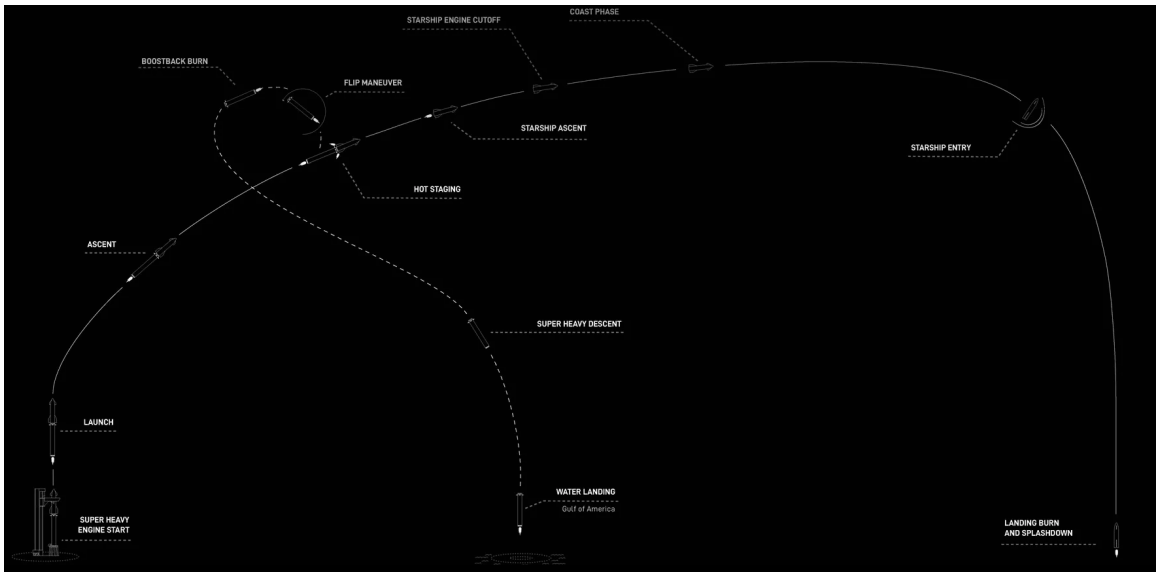
The project builds on the experience accumulated by Avio with the **Vega launcher** and on European innovations in **advanced liquid propulsion**, **controlled re-entry**, and **space vehicle recovery**.

The new reusable stage could be used in future evolutions of **Vega** or in **new European launch systems** under study. The program also acts as a catalyst for the **Italian industrial supply chain**, confirming its technological leadership in the launcher sector.

With this initiative, Europe aims to **reduce the cost of access to space**, **increase launch frequency**, and **strengthen its strategic autonomy** in an increasingly competitive domain.

Europe Accelerates Innovation

The project is part of ESA's broader strategy called the **“European Launcher Challenge”**, a program aimed at **stimulating innovation** and ensuring the Union **independent access to space**, also through public-private partnerships.



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In parallel, the agency continues with **Space Rider**, the reusable shuttle for low orbit missions, and with the development of **Susie**, the reusable stage proposal presented by **ArianeGroup** in 2022.

Both **China** and the **United States** continue to push the accelerator on reusability: Beijing recently updated the project of the **Long March 9**, its fully reusable super rocket, while SpaceX prepares for orbital-point-to-point tests of the **Starship**.

With the collaboration between **ESA and Avio**, Europe shows it does not want to remain a spectator. The future of space launches hinges on the **ability to innovate, reuse, and make access to orbit sustainable** – and this time, Italy will be at the forefront.

News link: https://www.avio.com/it/comunicati-stampa/avio-firma-contratto-da-40-milioni-di-euro-con-lagenzia-spaziale-europea-sviluppo