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Press release

Space transporter *Albert Einstein* taking shape

The fourth European ATV (*Automated Transfer Vehicle*) space transporter is currently in the final integration stage in the hall of Europe's Spaceport in Kourou, French Guiana. The satellite is to be launched on 18 April 2013 on board an Ariane 5 launcher and dock at the International Space Station a few days later. The European Space Agency ESA has named ATV4 *Albert Einstein* at the proposal of the Swiss Delegation.

ATV4 *Albert Einstein* receives its payload and is assembled

The fourth European ATV space transporter was loaded with supplies in recent months. In addition to food and clothing for the astronauts on board the International Space Station ISS, there is also equipment for scientific experiments. These goods will be transported in the ICC (Integrated Cargo Carrier). After the ATV has docked at the ISS, the astronauts will be able to enter this section of the spacecraft and transfer the goods to the ISS. The ICC will also be carrying tanks of drinking water for the astronauts, various gases (such as oxygen) and fuel for the propulsion system of the ISS, which will be transferred automatically during the docked stage of the mission.

The loaded ICC (above) is lifted onto the service module (below) with the help of a crane and secured. The service module contains the propulsion engines of the ATV and supplies the satellite with electricity (Image: ESA).

Once the integration phase has been completed ATV4 will be mounted on top of an Ariane 5 launcher, which will place it into orbit on 18 April this year. With the help of its autonomous and high-precision navigation system, the *Albert Einstein* will approach and dock with the ISS in a series of manoeuvres. The mission is expected to last until mid-October 2013.

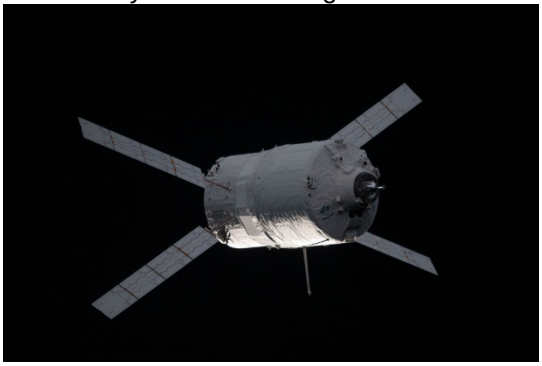
There are plans to broadcast the launch of ATV4 live at a public event in Bern.

ATV space transporter

The unmanned ATV space transporters are Europe's most important contribution to supplying and maintaining the ISS and are the largest and most powerful spacecraft developed and constructed in Europe to date. These craft are intended to provide the ISS with logistics, i.e. they transport supplies for the crew of the ISS. A further important function of the ATV is to 'reboost' the ISS to a higher orbiting altitude, using the propulsion system incorporated in the service module, to counter the effects of atmospheric drag which causes the ISS to slowly lose altitude. At the end of the mission the ATV is then used as a waste container for equipment and waste water no longer required on the ISS. After undocking it burns up on re-entry into the earth's atmosphere.

The first flight of an ATV (ATV1 *Jules Verne*) took place in 2008, although this was still a test flight. Operational deployment of ATVs began in February 2011 with ATV2 *Johannes Kepler*, followed by ATV3 *Edoardo Amaldi*, which was launched in March 2012.

In keeping with the tradition of its predecessors ATV4 bears an illustrious name, that of probably the most famous scientist of the 20th century, ***Albert Einstein***. The European Space Agency ESA selected this name following an internal evaluation process. The proposal was submitted by the Swiss delegation to ESA.



ATV3 Edoardo Amaldi *during its docking manoeuvre at the International Space Station ISS in March 2012 (Image: ESA)*

Swiss technology on board

The assembly of the individual elements of the ATVs (ICC, service module, adapter for the Ariane 5 rocket) is carried out by Astrium GmbH in Bremen, which is the main contractor for the production of these spacecraft. The Swiss aeronautics industry plays an important part in the development and production of the ATVs. RUAG Space in Zurich (formerly Contraves and Oerlikon Space) manufactures the main structure and APCO Technologies in Aigle manufactures the micrometeoroid protection panel system for the service module. Syderal in Gals makes electronic components to regulate the temperature of the satellite. This involvement and the experience gained as a result enables Swiss industry to position itself for the ESA's future development activities in the field of manned space flight. One example is the service module for NASA's *Orion* spacecraft, which will be developed and manufactured by firms in Europe.

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