



Press release

ATV-4 *Albert Einstein* begins the first leg of its journey to the ISS

The European Automated Transfer Vehicles (ATVs) are an important element of the supply logistics for the International Space Station (ISS). These spacecraft bring material, water, fuel and equipment for scientific experiments to the ISS and enable orbital manoeuvres. *Albert Einstein* is the fourth in this series of large-capacity ATVs. On 29 August 2012, ATV-4 left the integration hall of *Astrium GmbH* in Bremen and is now on its way to the launch site in Kourou, French-Guiana. Following the proposal of the Swiss Delegation to the European Space Agency (ESA), *Albert Einstein*, was chosen by ESA as the name for ATV-4.

Automated Transfer Vehicles (ATVs)

The unmanned, cargo-carrying Automated Transfer Vehicles (ATVs) are Europe's most important contribution to the International Space Station (ISS) programme. They are also the largest and most reliable spacecraft developed and built so far in Europe. These spacecraft serve a logistical function by bringing fresh supplies such as food, hygiene products, clothing, spare parts and mail to ISS crewmembers. ATVs are also equipped with reservoirs to carry water and fuel to the ISS. Furthermore, ATVs are also being used for reboost manoeuvres, using their rocket engines to raise the orbit of the ISS. This is an important function because the ISS tends to gradually descend towards the Earth under the effects of friction with the very thin atmosphere. At the end of their mission, ATVs are used as a "waste bin" to eliminate wastewater and ISS materials and equipment that are no longer needed. Once the ATV undocks from the ISS,

it will re-enter the Earth's atmosphere and disintegrate.



ATV-2 *Johannes Kepler* docked with the International Space Station ISS (Photo: NASA)

ATV-4 *Albert Einstein* on its way to Kourou

The first ATV, called ATV-1 *Jules Verne*, was launched in 2008. This was a test flight to check the spacecraft's systems. The operational phase began with the launch of ATV-2 *Johannes Kepler* in February 2011 and was

Fact Sheet

followed by the launch of ATV-3 *Edoardo Amaldi* in March 2012.

Following the tradition of its predecessors, ATV-4 is named after a renowned individual: in this case, the 20th century's most famous scientist, **Albert Einstein**. Following an internal selection process, the European Space Agency (ESA) chose the name proposed by the Swiss Delegation.

ATV-3 *Edoardo Amaldi* will remain docked to the ISS and used to carry out various reboost manoeuvres until mid-September 2012. In the meantime, the various components of ATV-4 *Albert Einstein* left the integration hall of *Astrium* GmbH in Bremen on 29 August for a two-week journey by sea to the launch site in Kourou, French-Guiana. Upon arrival, these components will be integrated into the launch vehicle.



ICC freight module for ATV-4 Albert Einstein being loaded onto a cargo ship in Bremen.

The ATV's tanks will be filled with drinking water for the astronauts as well as various gases and fuels for the ISS manoeuvring engines. Dry goods and samples needed for scientific experiments will also be loaded and the ATV's own fuel tank filled.

After undergoing several additional tests, the fully integrated ATV-4 will be placed on top of its Ariane-5 launch vehicle, to be launched in April 2013. Using its autonomous high-precision navigation systems, ATV-4 *Albert Einstein* will position itself for approach and

docking with the ISS. The mission is scheduled to be completed by the end of August 2013.



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