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ESA Could Turn ATV into Manned Spacecraft

ESA to further reduce dependence on foreign space transport

European Space Agency's Jules Verne Automate Transfer Vehicle has successfully completed its mission last month when it delivered supplies to the International Space Station. After giving ESA a little taste of autonomy, the new supply ship could be used to design a manned spacecraft that would further reduce Europe's dependence on foreign space transport vehicles. The ATV was built by ESA with the main purpose of replacing the Russian Soyuz and Progress freighters used to resupply the ISS. It is completely autonomous, although it was designed only to carry goods, not people. The inevitable withdrawal of NASA's space shuttles should be complemented by 2015 with Russian spacecrafts, albeit ESA doesn't want to leave everything to chance and has recently expressed its desire to build a manned vehicle capable of transporting humans to the ISS and possibly even to the Moon. The project will be officially presented to the European space ministers in November and if approved, it could take as much as nine years to complete. Nonetheless, a manned vehicle would significantly advance Europe's space programme. "It will make a huge difference", says Manuel Valls, the head of policy and plans at ESA's Human Spaceflight Directorate. Europe can send an astronaut into space on board US and Russian vehicles only once every two years. Having its own spacecraft, ESA could send up to three astronauts into space more frequently than today. "Instead of being passengers in a taxi, we will have the mobility to play a more solid role in space programmes", Valls said. Similarly to the ATV, the new vehicle would be completely autonomous, allowing humans to interfere only when critical malfunctions occur. The spacecraft would have to be adapted to provide a constant artificial atmosphere and a temperature and pressure regulation system. Also, a heat shield will have to be designed, since the current configuration of the ATV enables it to provide one-way journeys only. The Ariane V rocket, which is currently used by ESA to launch vehicles into space, would also have to suffer some modifications, one of them being reduction of vibrations during lift-off. The design proposed by Astrium involves a 3 meter diameter capsule, which would separate from the main body only during re-entry, to be later used in other flights after landing.