

A Room with a View: Node Tranquility and the Cupola, both supplied by Thales Alenia Space, are ready for launch to complete the ISS assembly

Thales Alenia Space: a key contributor for the International Space Station

Cannes, 4 February 2010 – NASA's space shuttle Endeavour is undergoing final preparation for the STS-130 mission that will complete the basic assembly for the "non-Russian segment" of the ISS. In her cargo bay, Endeavour carries the last of the main modules to be docked to the orbital outpost - the Node 3, as well as the jewel-shaped Cupola, a working station featuring the largest set of windows ever mounted on a manned space station. Launch is due on February 7 from NASA's Kennedy Space Center, in Florida, with docking to the ISS two days later. This module of the International Space Station and the revolutionary viewing port for outer space operations were designed, developed, integrated and tested by Thales Alenia Space in its facilities in Turin, Italy.

Dubbed "Tranquility", Node 3 is the second connecting node module built by Thales Alenia Space and commissioned by the European Space Agency (ESA) on behalf of NASA. Its twin, Node 2 "Harmony", was provided in a similar way and was docked to the ISS in October 2007. Like its predecessor, Node 3 is a wonderful piece of technology. This 6.7-m long and 4.5-m diameter cylindrical module is fitted with six docking ports in order to provide berthing locations for future modules or vehicles. It will be mounted on the port side of Node 1 "Unity".

Node 3 will also expand the habitable volume of the ISS by 75 cubic meters and provide new locations for research hardware and living quarters. It incorporates new toilets that will improve the everyday life of the ISS permanent crew, which was expanded from three to six by mid-2009. As an improvement from Node 2, Node 3 was equipped with the most sophisticated environmental and life support system ever flown in space. In addition to water recycling and oxygen generation, it includes an atmosphere purification system that removes toxic substances and measures their components.

At launch, Node 3 will be fitted with the Cupola workstation at its end cone docking port. Once Node 3 is docked to the ISS, the Cupola will be relocated to Earth-facing port that will better suit its mission of providing a "window on outer space" in order to support docking operations outside of the Station as well as robotic activities using the various remote manipulating arms available on the orbital complex.

The 3-m diameter dome-shaped Cupola features seven windows with shutters and can accommodate two astronauts at the controls to provide them with an unprecedented 360-degree view on the outside of the ISS. Each window is composed of two 25-mm thick panes with a third one for debris protection and a fourth one to avoid damage from inside. These are the largest windows ever mounted on a manned space station. Once operational, it will be used as the Station's "flight control center", monitoring all incoming and departing vehicles.

A world leader in pressurized modules

Node 3 and the Cupola are not the last contributions by Thales Alenia Space to the ISS. By next September, the last of the shuttle flights will leave the modified Leonardo Multipurpose Pressurized Logistics Module (MPLM) attached to the ISS as an additional Permanent Multipurpose Module (PMM). Moreover, Thales Alenia Space will also continue providing integrated pressurized cargo modules for ESA's Automated Transfer Vehicles (ATVs). Recently, Thales Alenia Space was awarded a major NASA contract, commissioned through Orbital Sciences, to design and build pressurized cargo modules for Cygnus unmanned resupply vehicles. Next ATV mission is currently planned in November 2010 with ATV-2 "Johannes Kepler", while the maiden flight of Cygnus is scheduled in 2011.

In all, as prime contractor for Node 2 & 3 and Leonardo PMM and subcontractor on ESA's Columbus laboratory, Thales Alenia Space will have provided four out of the nine permanent pressurized modules of the non-Russian segment of the ISS. This represents a larger habitable volume than provided any other industrial partner. Taking into account the three MPLMs (Leonardo, Raffaello and Donatello) and the 16 pressurized cargo modules already contracted for ATVs and Cygnus vehicles, Thales Alenia Space is by far the leading pressurized modules provider for the world's largest orbital infrastructure ever launched. In quantitative terms, Thales Alenia Space is the second largest contributor to the ISS, just behind NASA's prime industrial contractor for the station, Boeing.

Thales Alenia Space also supplied NASA with the necessary support in the final testing and launch preparation for each of its modules at Kennedy Space Center. During all phases of the mission, this support is provided through Altec Centre, a joint-venture of Thales Alenia Space, the Italian Space Agency and the Region of Piedmont.

As international space agencies are currently studying what the future of human space exploration could be, Thales Alenia Space has already demonstrated the technological know-how and industrial expertise to support their future projects.

About Thales Alenia Space

European leader in satellite systems and a major player in orbital infrastructures, Thales Alenia Space is a joint venture between Thales (67%) and Finmeccanica (33%). Thales Alenia Space and Telespazio embody the two groups' "Space Alliance". Thales Alenia Space sets the global standard in solutions for space telecoms, radar and optical Earth observation, defense and security, navigation and science. The company has a total of 7,200 employees and 11 industrial sites, with design and manufacturing facilities in France, Italy, Spain and Belgium.
www.thalesaleniaspace.com

Thales Alenia Space Press Contacts

Florence Pontieux
Sandrine Bielecki

Tel: +33 (0)1 57 77 91 26
Tel: +33 (0)4 92 92 70 94

florence.pontieux@thalesaleniaspace.com
sandrine.bielecki@thalesaleniaspace.com