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The launch of STS-102 to the International Space Station (ISS), the eighth shuttle mission to visit the orbiting laboratory, serves as a crew rotation flight. Space Shuttle *Discovery* will deliver members of Expedition Two crew to the station and will return the Expedition One crew to Earth.

Discovery also launched the first of three "moving vans" used to ferry cargo back and forth between Earth and the ISS. These three Italian Space Agency's Multi-Purpose Logistics modules (MPLM), Leonardo, Raffaello and Donatello, are able to deliver up to 10 tons of laboratory racks filled with equipment and supplies for outfitting the ISS.

The primary cargo for the mission is the Leonardo MPLM, which contains six racks for the U.S. *Destiny* Laboratory Module, which was delivered and installed onto the station last month. These specially-designed racks were built by Boeing employees in Huntsville with installed and stowed hardware from teams in Canoga Park, Huntington Beach and Huntsville.

"The Lab Systems Racks are actually housings for *Destiny's* hardware and workstations used onboard the station," explained Steve Prejean, Launch Package manager. "Crew members are able to snap the Lab System Racks into designated bays that have a configuration common to the U.S. and international partner modules. Once in place, the electrical systems, cooling and signals needed to operate the racks are automatically connected. This significantly reduces the need for crew to have to connect any cables or hoses."

Leonardo is transporting two types of Boeing-provided racks. Six are Lab System Racks for *Destiny* - two racks for the robotics control stations, that will be used to control the space station robotic arm; a crew health care system rack to monitor crew health; an avionics rack which houses some of the station's communication hardware; and two racks containing power controllers and outlets. Also onboard Leonardo are three Boeing-designed Resupply Stowage Racks used to stow miscellaneous hardware for transfer to the Station.

During Leonardo's stint on ISS it will be mounted to the U.S. Node Unity enabling crew members to easily transport items to and from the *Destiny* lab. Leonardo will return with items no longer needed on station such as parts, crew items, extra hardware and trash.

In addition to Leonardo, there is the unpressurized Integrated Cargo Carrier mounted in the payload bay which is used to transport a spare pump flow system, used to provide pumping capability to the station's thermal control system, the rigid umbilical or extension cord used to power the robotic manipulator arm; the lab cradle assembly which will temporarily hold a truss segment; and the External Stowage Platform used to park spares.

STS102 is scheduled to return March 20.

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Note: MPLM Photos are available on NASA's Kennedy Space Center website.

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