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# As STS-122 mission completes successfully, research in the Columbus laboratory can commence

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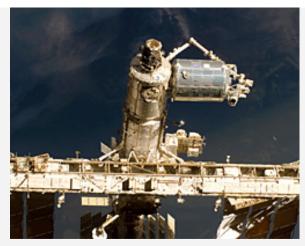
Landing of space shuttle Atlantis

"Mission accomplished" – with these words, Mission Control Center (MCC) in Houston, Texas, announced the completion of Space Shuttle Atlantis' flight STS-122. The shuttle landed at the Kennedy Space Center (Florida) on Wednesday 20 February 2008, at 15:07 Central European Time (09:07 local time). The return of German ESA astronaut Hans Schlegel marked the successful completion of the most important European human spaceflight mission.

"The work of the Atlantis crew and of the resident crew of the International Space Station (ISS) has secured a firm European presence on the ISS," says Johann-Dietrich Wörner, Chairman of the Executive Board of the German Aerospace Center (DLR). Wörner went on to say: "Now that the European space laboratory Columbus has become operational, the focus shifts to using it, to conducting research. Columbus has brought research on the ISS to a new level; research capacity has increased by 50 percent. As early as next week, Germany will start on the first of 19 experiments in the medical field."

The successful lift-off of Atlantis on 7 February 2008, at 20:45 CET from launch complex 39A at the Kennedy Space Center in Florida was not only the start of the deployment of the two ESA astronauts Hans Schlegel, from Germany, and Léopold Eyharts, from France. It was also the start of the deployment of the European space laboratory Columbus on the International Space Station (ISS).

As STS-122 mission completes successfully, research in the Columbus laboratory can commence



Columbus is part of the ISS

### The european Columbus Control Centre at DLR in Oberpfaffenhofen

After the shuttle docked to the ISS, the astronauts immediately started preparing the installation of the Columbus laboratory. With the words "calling Munich", the Columbus Control Centre's involvement in the mission was affirmed. The engineers and scientists also responded with pride when the first images of the control rooms in DLR's Oberpfaffenhofen facility, near Munich, on behalf of ESA appeared on the NASA television network, along with the control centres MCC in Houston, Texas, and ZUP in Korolev, northeast of Moscow.

During their first activity outside the spacecraft (Extra-vehicular activity, or EVA for short), the two NASA astronauts Stan Love and Rex Walheim attached the Columbus laboratory to the ISS. At the same time, Hans Schlegel monitored and supervised these activities from inside the ISS itself, as part of the so-called "Intra-vehicular activity" (IVA). As soon as Columbus was opened up the next day, the astronauts, together with the Columbus Control Centre, started on making it operational.

The goal of the second EVA, which was completed successfully by Hans Schlegel and Rex Walheim, was to install a new nitrogen tank for the ISS climate control system. This makes Hans Schlegel the second German astronaut, after DLR Executive Board member Thomas Reiter, to perform an extra-vehicular activity in free space. On Friday, during the third extra-vehicular activity for this mission, Rex Walheim and Stanley Love installed the external payload platform of the Columbus laboratory, holding the experiments SOLAR and EuTEF. After completing their external work on the European space laboratory, the astronauts concentrated on the interior of the new module.



German ESA-astronaut Hans Schlegel at his extra-vehicular activity in free space

### **DLR** experiments in the European research laboratory

Columbus, the European contribution to the ISS, was developed and built by the European space industry, led by the Bremen site of EADS Astrium. For years, the start of the mission had been eagerly awaited not just by the space industry engineers, but also by the scientific community, the potential user base of the European "high tech drum" orbiting Earth. Following the trouble-free start of operations of Columbus, and now that the Columbus Control Centre in Oberpfaffenhofen has taken over the control of the laboratory, the first experiments can begin. The so-called User Support Centres will form a crucial part of the European scientific network. One of these is the DLR's User Support Centre for space experiments (MUSC) in Cologne. One of the first experiments will be conducted under the authority of the DLR Institute of Aerospace Medicine (DLR-Institut für Luft- und Raumfahrtmedizin).

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