Atlantis has landed – an interview with DLR Chairman Johann-Dietrich Wörner

21 July 2011

Just before sunrise, Atlantis, the last space shuttle to fly in space, touched down at the Kennedy Space Center in Florida on Thursday, 21 July 2011 at 05:57 local time (11:57 CEST). This marks the end of the 30-year era of the US space shuttle. In this interview, Johann-Dietrich Wörner, Chairman of the DLR Executive Board, talks about the future of human spaceflight after the end of the space shuttle programme.

When the space shuttle Atlantis landed at the Kennedy Space Center on 21 July 2011, a 30-year era came to an end. What will happen in the next chapter of German and international human spaceflight, following this pause?

Spaceflight has outgrown the status of being a ‘demonstration of power’ that it had during the Cold War and become part of our everyday infrastructure, directly affecting areas such as weather and climate monitoring, navigation and communication. It is equally evident in human spaceflight, where experiments on the biological effects of weightlessness and the absence of the protective envelope of Earth’s atmosphere can be performed. However, both manned and robotic spaceflight will continue to be part of mankind's efforts to further its knowledge and explore unknown worlds.

The Russian Soyuz spacecraft are now the only means of transport available to carry astronauts to the International Space Station. Can they really replace the space shuttle? What particular challenges will arise for the next manned missions?

Soyuz and the space shuttle have proven to be reliable transportation for cosmonauts and astronauts in recent decades. The shuttle was also capable of carrying larger payloads into orbit and bringing them back to Earth – this is a capability we will be lacking for the next few years. Unfortunately, the idea of adapting the ATV for this purpose, which was developed a few years ago, is not likely to be implemented in the near future, owing to the financial constraints on member states of the European Space Agency (ESA). We are now waiting to see what the Commercial Crew Development Program (CCDev2), the US initiative for commercial spaceflight, can achieve. The goal of this programme is to provide another means of transport for human spaceflight as soon as possible, following the last shuttle flight.

The German Federal Government’s space strategy focuses primarily on the benefits of space for people on Earth. How can manned missions continue to fulfil this requirement in view of the more limited transportation capability? For example, what role can experiments in microgravity involving astronauts play?

Experiments in microgravity involving astronauts are certain to continue. The boundary conditions for this do not date from the pre-shuttle era. Besides the ISS, the ATV and HTV are available as means of transport, and the global space network offers additional options. However, the issue of bringing back equipment, experiments and samples needs to be resolved soon.

Looking at international collaboration, are there serious plans, for example, to use the European Automated Transfer Vehicle (ATV), in which Germany has had a large involvement, to transport astronauts?

The ATV is already used in human spaceflight. It transports food and other materials for the astronauts and automatically docks to the International Space Station. Hence it fulfils an important function for human spaceflight and addresses the specific safety requirements. But it

is not designed for transporting people. Rather, we need to see whether cooperation between the United States and Europe, in particular, can lead to the implementation of new configurations when combining European and US technology and experience taking into account financial possibilities. There are plenty of ideas.

What is your opinion regarding the privatisation and commercialisation of spaceflight? What commitment from private industry do you think is reasonable for future exploration missions?

Privatisation and commercialisation are two different things. Private companies are already successful in the field of communication and are investing in space in a similar way to their earthbound infrastructure. In human spaceflight, some companies have opted for space tourism as a business model and are developing appropriate vehicles for flights at altitudes of over 100 kilometres. For commercial space transportation, Europe has established a ‘prototype’ with Arianespace, where an independent business receives government support, which is being used as a model by other countries. In the fields of science and exploration, the government will continue to play a key role in financing the spaceflight of the future.

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STS-135: Atlantis towback

After the last Space Shuttle landing: Atlantis completed the STS-135 mission on 21 July 2011.

Credit: Thilo Kranz /DLR (CC-BY 3.0).

Atlantis landing at Kennedy Space Center on 21 July 2011 at 05:57 local time

The US Space Shuttle Atlantis landed at Kennedy Space Center in Cape Canaveral, Florida, on 21 July 2011 shortly before sunrise at 05:57 local time (11:57 CEST). After 13 days in space, this last space shuttle mission (STS-135) has come to an end.

Credit: Thilo Kranz / DLR.

Chairman of the DLR Executive Board, Johann-Dietrich Wörner

For Johann-Dietrich Wörner, Chairman of the German Aerospace Center (DLR), aerospace and the technologies resulting from it are an integral part of everyday life.

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