

# 100 days to Andreas Mogensen's mission

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Andreas during a simulation inside the full-scale mockup of the Soyuz capsule.  
Credit: ESA–S. Corvaja, 2014

The 100-day countdown begins today for ESA astronaut Andreas Mogensen's visit to the International Space Station. Following launch on 1 September, he will test new technologies and deliver a fresh spacecraft for the long-stay crew already aboard the orbital complex.

Most Station astronauts stay for up to six months, but NASA's Scott Kelly and Russia's Mikhail Korniyenko are spending almost a year in space to research the effects of living in weightlessness for a long time.

All occupants arrive in a Russian Soyuz spacecraft that is certified for six months, so Scott and Mikhail need a new vehicle to fly home when their [mission](#) ends next year.

Andreas and his crewmates will fly to the Station in Soyuz TMA-18M but return to Earth aboard Soyuz TMA-16M, which delivered Mikhail and Scott to the weightless research laboratory.

## **Tech-heavy tight schedule**

This unusual short mission is an opportunity to test new technologies and return experiment samples to scientists on Earth quickly.

During the early period that most new arrivals spend acclimatising to their new environment, Andreas will work on around 20 European experiments.

He will test a new close-fitting garment that promises to alleviate the back pain that many astronauts suffer. Other experiments will look at blood vessels and Andreas's muscles, bones and brain to see how they fare in space.

Many of the experiments for his 'iriss' mission will test new ways of interacting with [mission control](#) to improve operations. He will perform some tasks without training on the ground, instead relying on just-in-time-training from 3D software. A headset will stream live video to mission control so they can look over his shoulder and offer advice.

The Meteron project, aiming to control robots from space, will take a

step forward when Andreas operates a rover in the Netherlands from the Station. He will also use a feedback joystick to move its twin on Earth, allowing him to 'feel' objects remotely.

He will also investigate from above what happens during thunderstorms and possibly launch a student satellite to track ocean ships.



The Soyuz TMA-16M spacecraft is launched towards the International Space Station. Journeying aloft are Expedition 43 NASA astronaut Scott Kelly and Russian cosmonauts Mikhail Kornienko and Gennady Padalka. They were launched on 27 March 2015 from the Baikonur Cosmodrome in Kazakhstan. Scott and Mikhail will stay on the Space Station for 11 months and return to Earth in Soyuz TMA-18M in March 2016. ESA astronaut Andreas Mogensen and his crewmates will fly to the Station in Soyuz TMA-18M in September 2015 and return to Earth in the Soyuz TMA-16M pictured here. Credit: NASA-B. Ingalls

"I will be very busy the last 100 days before launch, preparing for the science and technology activities," says Andreas. "With the densely packed schedule that I have for the mission, I need to hit the ground running as soon as I arrive at the Station."

Andreas is sharing his training for the mission through regular video blogs and hopes to continue while in space. Follow his mission via [andreamogensen.esa.int](http://andreamogensen.esa.int)



ESA astronaut Andreas Mogensen wearing a headset that is part of the Mobi-PV experiment to test new ways of interacting with mission control to improve operations. Astronauts on the International Space Station have many tasks, ranging from scientific experiments in over 40 fields of research to maintaining ventilation systems and grappling spacecraft with robotic arms. The procedures are generally displayed on a laptop, so astronauts need to have at least one hand

free to move to the next step. A lot of time is lost referring to procedures and returning to the task at hand. ESA is testing simple-sounding ways of making the astronauts' lives easier in a project called Mobi-PV. A headset will stream live video to mission control so they can look over his shoulder and offer advice.

Credit: ESA–J. Harrod

Provided by European Space Agency

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