

# International Space Station

Clearly visible with the naked eye in the night sky, the expansive International Space Station is a working laboratory orbiting 240 miles (390 kilometers) above the Earth and is home to an international crew.

It is the most complex scientific and technological endeavor ever undertaken, involving five space agencies representing 16 nations. Once completed, this new research outpost in space will include contributions from the United States, Canada, Japan, Russia, Brazil, Belgium, Denmark, France, Germany, Italy, the Netherlands, Norway, Spain, Sweden, Switzerland and the United Kingdom.

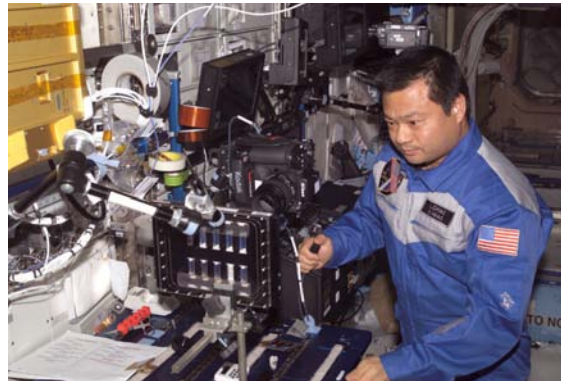
As a research outpost, the station is a test bed for future technologies and a research laboratory for new, advanced industrial materials, communications technology, medical research and much more.

On-orbit assembly began in 1998 with the launch of Zarya, and today the station provides crew members with 15,000 cubic feet of habitable volume – more room than a conventional three-bedroom house – and weighs 454,000 pounds. The station's solar panels exceed the wing span of a 777 wide-body jet and harness energy from the sun to provide electrical power to all station components and scientific experiments.

The station now includes the Russian-built Zarya Module and the Zvezda Service Module, which contain the station's living quarters and life-support systems; the U.S.-built Unity connecting Module, providing docking ports for several station components; the U.S.-built Destiny Laboratory, which expands the station's scientific capabilities with experiment compartments that allow nearly continuous scientific research and provide additional life support and robotic capabilities; the U.S.-built Quest Airlock, a doorway to space that supports station-based spacewalks; the Canadian-built Canadarm2, a new-generation robotic arm that

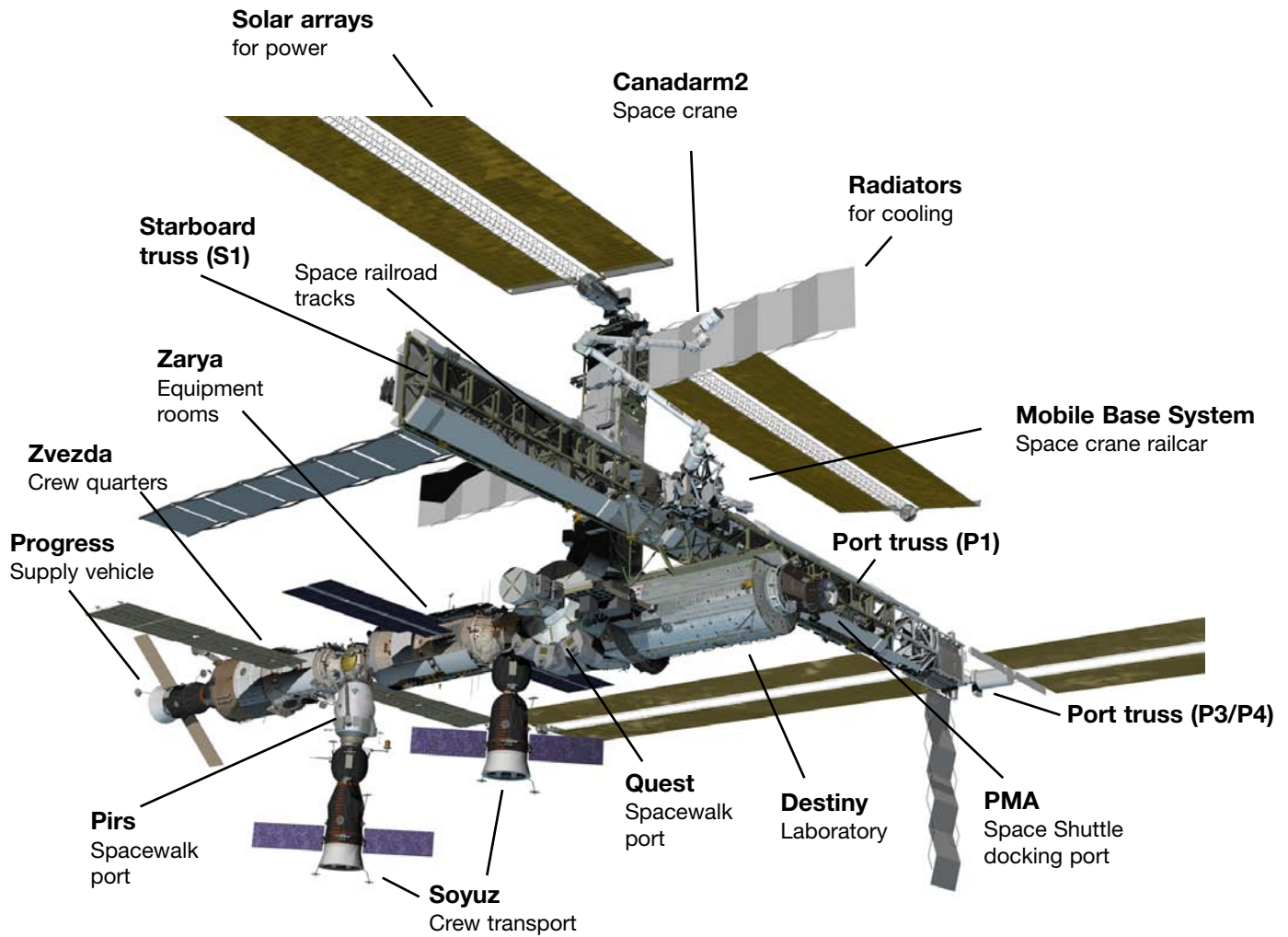
gives the station a movable space crane; the Russian-built Pirs docking compartment, which adds additional spacewalking and docking capabilities to the station; and truss segments, which serve as the framework for additional station segments. Japanese and European research laboratories are ready for delivery to expand the station's research capabilities even more.

The station's first resident crew, Expedition 1, marked the beginning of a permanent international human presence in space, arriving at the station in a Russian Soyuz capsule in November 2000. Currently, station crews stay on orbit for six months at a time. The International Space Station provides the first laboratory complex where gravity, a fundamental force on Earth, is virtually eliminated for extended periods. This ability to control the



variable of gravity in experiments opens up unimaginable research possibilities. The International Space Station is vital to human exploration. It's where we learn how to combat the physiological effects of being in space for long periods. It's our test bed for technologies and our decision-making processes when things go as planned and when they don't. It's important to learn and test these things 240 miles up rather than encountering them 240,000 miles away while on the way to Mars or beyond.

NASAfacts



*The International Space Station has 15,000 cubic feet of habitable volume - more room than a conventional three-bedroom house - and weighs 454,000 pounds. The space station orbits Earth at 17,500 mph, 240 statute miles above Earth.*

The International Space Station, an unprecedented, state-of-the-art orbiting laboratory complex, continues to expand the boundaries of space research. The unique capabilities of its laboratories will lead to discoveries that will benefit missions further into outer space and people all over the world, now and for the future.

Completing the International Space Station is one of the first steps in the Vision for Space Exploration, a stepping-stone strategy toward new exploration goals. Using the station to study human endurance in space and to test new technologies and techniques, NASA will prepare for the longer journeys to the moon, Mars and beyond.

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