



SPACE TO GROUND

1

00:00:00,910 --> 00:00:04,819

Houston station on Space to Ground. Thanks for joining us for Space to Ground.

2

00:00:04,819 --> 00:00:06,140

Nicole Cloutier-Lemasters.

3

00:00:06,140 --> 00:00:10,710

Cosmonauts Sergey Ryazansky and Oleg Kotov completed a six hour spacewalk

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00:00:10,710 --> 00:00:14,160

on Monday to install two new high fidelity cameras on the exterior

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00:00:14,160 --> 00:00:17,430

of the space station. The stunning views that you're see here came from

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00:00:17,430 --> 00:00:19,890

the small cameras worn on the spacewalkers' wrists

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00:00:19,890 --> 00:00:23,810

as they work 260 miles above the Earth. While outside, the pair

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00:00:23,810 --> 00:00:26,900

also retrieved a Russian experiment that exposes different materials

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00:00:26,900 --> 00:00:27,910

to the space environment.

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00:00:27,910 --> 00:00:32,110

Inside the ISS, Flight Engineers Mike Hopkins and Koichi Wakata

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00:00:32,110 --> 00:00:34,080

worked on a sensor that's part of ISERV,

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00:00:34,080 --> 00:00:37,540

a small telescope that's mounted in the station's US laboratory.

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00:00:37,540 --> 00:00:41,150

When it's running, ISERV captures three Earth images per second.

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00:00:41,150 --> 00:00:44,740

The goal of the experiment is to improve automatic image capturing

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00:00:44,740 --> 00:00:48,829

and data transfer. But the images taken can also help environmental scientists,

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00:00:48,829 --> 00:00:53,280

disaster responders and other Earth based users to understand environmental impacts

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00:00:53,280 --> 00:00:55,300

from natural and man-made disasters.

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00:00:55,300 --> 00:00:58,640

Hopkins also spent some time with the station's state of the art

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00:00:58,640 --> 00:01:02,680

microscope facility. This instrument enables new research of microscopic

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00:01:02,680 --> 00:01:04,129

phenomena in microgravity.

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00:01:04,129 --> 00:01:07,700

The way matter is organized and moves on the microscopic level

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00:01:07,700 --> 00:01:11,780

affects everything around us, and understanding these detailed processes helps

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00:01:11,780 --> 00:01:13,080

scientists and engineers

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00:01:13,080 --> 00:01:16,510

build more efficient materials and machines for both the Earth and space

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00:01:16,510 --> 00:01:17,159

environments.

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00:01:17,159 --> 00:01:20,860

This week, we have a fantastic question from @JDPowell33.

27

00:01:20,860 --> 00:01:24,729

He asks: What is the livable volume on the space station?

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00:01:24,729 --> 00:01:29,020

Many people are amazed to learn how big the ISS really is.

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00:01:29,020 --> 00:01:31,190

here is actually more livable space on the station

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00:01:31,190 --> 00:01:35,240

than there is in a six-bedroom house. 13,000 cubic feet to be exact.

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00:01:35,240 --> 00:01:39,430

There's plenty of room including two bathrooms, a workout area and even an

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00:01:39,430 --> 00:01:41,299

expansive bay window to enjoy that

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00:01:41,299 --> 00:01:45,580

stellar view. Astronauts frequently say that sometimes they can work all day without

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00:01:45,580 --> 00:01:46,619

seeing their crewmates.