



1

00:00:01,286 --> 00:00:03,426

Hello and welcome to Mission Control Houston.

2

00:00:03,426 --> 00:00:06,416

We're inside the International
Space Station Flight Control Room.

3

00:00:06,936 --> 00:00:11,286

The team here is monitoring systems aboard
the space station and following along

4

00:00:11,286 --> 00:00:15,026

with the activities of the Expedition
29 crew onboard the complex.

5

00:00:17,236 --> 00:00:20,216

The crew members are working through
the early afternoon of their day.

6

00:00:20,406 --> 00:00:21,716

Today is Tuesday Oct. 11.

7

00:00:21,716 --> 00:00:25,646

The crew members include
cosmonaut Sergei Volkov

8

00:00:26,206 --> 00:00:32,176

and Japan Aerospace Exploration Agency astronaut
Satoshi Furukawa and NASA astronaut Mike Fossum

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00:00:32,176 --> 00:00:33,866

who is the commander of the space station.

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00:00:35,636 --> 00:00:38,536

The crew members have started their
week off onboard the space station

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00:00:38,536 --> 00:00:41,026

with some maintenance activities

and science work.

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00:00:41,596 --> 00:00:46,556

The maintenance work involves some upgrades to the Water Recovery System onboard the station

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00:00:46,556 --> 00:00:50,526

that recycles the water and urine onboard for later use.

14

00:00:51,426 --> 00:00:56,676

The work in that involved upgrading a filter inside of the system to one

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00:00:56,676 --> 00:01:00,586

that is reusable instead of needing to be replaced occasionally

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00:01:00,586 --> 00:01:03,746

and is now called the Advanced Recycle Filter Tank.

17

00:01:05,156 --> 00:01:08,486

There's also been associated maintenance that is done routinely

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00:01:08,486 --> 00:01:13,626

with the Water Recovery System taking samples and filling tanks inside the system,

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00:01:15,446 --> 00:01:19,256

as well as some work with the Environmental Health System aboard the station.

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00:01:20,656 --> 00:01:25,136

Some other upgrades included some software onboard the complex on one of the racks

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00:01:25,136 --> 00:01:30,766

that support science experiments inside with

that upload of new software to the laptops

22

00:01:30,766 --> 00:01:32,646

that interface with the science experiments.

23

00:01:33,086 --> 00:01:36,016

Some of the experiments that the crew members have been working

24

00:01:36,016 --> 00:01:38,836

on include one for educational activities.

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00:01:38,946 --> 00:01:42,886

Furukawa was participating in the Lego bricks payload.

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00:01:42,886 --> 00:01:47,416

It's a series of toy Lego kits that are assembled onboard the station and used

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00:01:47,416 --> 00:01:49,236

to demonstrate scientific concepts.

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00:01:49,906 --> 00:01:54,576

Some of the models include satellites and a scale model of the International Space Station

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00:01:55,366 --> 00:02:02,076

and the one working with today is an exploration rover.

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00:02:02,476 --> 00:02:07,846

An experiment that Fossum will work with is called PACE,

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00:02:07,886 --> 00:02:10,206

Preliminary Advanced Colloids Experiment,

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00:02:10,206 --> 00:02:13,806

which is actually a pathway
experiment...pathfinder experiment

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00:02:13,806 --> 00:02:19,396

for a later advanced colloids experiment
that will fly to the space station.

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00:02:19,586 --> 00:02:26,556

The current experiment is characterizing
the conditions onboard the space station

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00:02:26,556 --> 00:02:32,096

to allow the future experiment to fly
samples that may have an important impact

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00:02:32,096 --> 00:02:39,166

on our understanding of fundamental physics
and also help with technology demonstrations

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00:02:39,166 --> 00:02:44,046

in extending the shelf life of consumables
on future long duration missions based

38

00:02:44,046 --> 00:02:46,156

on the data from that experiment.

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00:02:48,206 --> 00:02:53,646

Cosmonaut Volkov has also been working
with experiments, one called Pneumocard

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00:02:53,726 --> 00:02:57,716

which is an integrated study of the
adaptation of the cardiovascular system

41

00:02:57,716 --> 00:03:01,486

of crew members during a long
duration microgravity mission.

42

00:03:02,156 --> 00:03:07,556

Students here on Earth are welcome to

participate in experiments onboard the station.

43
00:03:07,666 --> 00:03:12,806
One of those announced this weekend where
students can actually propose an idea

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00:03:12,806 --> 00:03:18,746
for an experiment in a global competition
and two winners will be announced in January

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00:03:18,746 --> 00:03:22,606
and both of those experiments will fly
aboard the space station next year.

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00:03:23,616 --> 00:03:27,606
The experiments will be performed on
the U.S. portion of the space station

47
00:03:27,606 --> 00:03:29,916
that has been designated a national laboratory.

48
00:03:30,436 --> 00:03:36,386
Students from 14 to 18 years old are
invited to participate in that competition.

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00:03:37,236 --> 00:03:42,556
They are to submit a two-minute
video application by Dec. 7

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00:03:42,556 --> 00:03:48,996
via YouTube in up to three experiments
in either life sciences or physics.

51
00:03:50,276 --> 00:03:53,376
There's more information on the YouTube website