1
00:00:02,966 --> 00:00:04,746
Good day and Happy Friday.

2
00:00:04,746 --> 00:00:06,296
This is Mission Control Houston.

3
00:00:06,296 --> 00:00:09,556
You're joining us live inside
the International Space Station

4
00:00:09,556 --> 00:00:12,146
Flight Control Room where the
team has been monitoring the

5
00:00:12,146 --> 00:00:15,036
systems aboard the station and
supporting today's activities

6
00:00:15,036 --> 00:00:17,236
of the Expedition
31 crew members.

7
00:00:19,376 --> 00:00:21,166
Leading the Orbit 2 Team here

8
00:00:21,166 --> 00:00:24,706
in the station flight control
room today is Flight Director

9
00:00:25,176 --> 00:00:27,056
Courtenay McMillan
and next to her

10
00:00:27,056 --> 00:00:31,006
as NASA astronaut C.J.
Sturckow serving as CAPCOM.

11
00:00:31,006 --> 00:00:33,486
He's been relaying all ground

messages up to the crew.

12
00:00:34,856 --> 00:00:38,696
Aboard the orbiting complex
station Commander Oleg Kononenko

13
00:00:38,696 --> 00:00:42,106
and Flight Engineers European
Space Agency astronaut Andre

14
00:00:42,106 --> 00:00:45,216
Kuipers and NASA
astronaut Don Pettit,

15
00:00:45,216 --> 00:00:46,516
there on the right-hand side,

16
00:00:46,966 --> 00:00:49,206
are now completing
their 21st week in space

17
00:00:49,566 --> 00:00:51,326
and also now have the help

18
00:00:51,326 --> 00:00:54,876
of three new crew members Flight
Engineers Russian cosmonauts

19
00:00:54,876 --> 00:00:58,616
Gennady Padalka, Sergei Revin
and NASA astronaut Joe Acaba

20
00:00:58,616 --> 00:01:00,966
who joined them aboard the
International Space Station

21
00:01:00,966 --> 00:01:02,136
early yesterday morning.

22

00:01:02,136 --> 00:01:04,256
They are shown here
in the left hand side.

23
00:01:04,636 --> 00:01:07,336
And now for a look back
at this week in space.

24
00:01:09,796 --> 00:01:13,576
On Monday Expedition 31
Flight Engineers Don Pettit

25
00:01:13,576 --> 00:01:15,526
and Andre Kuipers worked

26
00:01:15,586 --> 00:01:18,636
to replace a failed global
positioning system unit

27
00:01:18,636 --> 00:01:21,766
and the International Space
Station's attitude control

28
00:01:21,766 --> 00:01:22,566
system on Monday.

29
00:01:22,566 --> 00:01:26,546
The GPS unit is needed
for the impending arrival

30
00:01:26,546 --> 00:01:30,246
of the SpaceX Dragon commercial
spacecraft that is slated

31
00:01:30,246 --> 00:01:33,496
to arrive at the orbital
laboratory later this month.

32
00:01:35,836 --> 00:01:38,356
Meanwhile, Pettit and

Kuipers documented their meals

33
00:01:38,356 --> 00:01:41,436
and took water and urine samples
for the Energy experiment

34
00:01:41,436 --> 00:01:42,376
that studies methods

35
00:01:42,376 --> 00:01:45,206
for maintaining crew
members' energy balance

36
00:01:45,336 --> 00:01:48,326
and for counteracting the
effects of long-term exposure

37
00:01:48,326 --> 00:01:50,276
to the microgravity
environment of space.

38
00:01:52,726 --> 00:01:55,696
Station Commander
Oleg Kononenko worked

39
00:01:55,696 --> 00:01:59,376
with the radiation payload suite
Matryoshka which is designed

40
00:01:59,376 --> 00:02:02,216
for sophisticated radiation
studies and is named

41
00:02:02,216 --> 00:02:04,816
after the traditional
Russian set of nested dolls.

42
00:02:05,346 --> 00:02:07,266
He also performed
routine servicing

43
00:02:07,266 --> 00:02:10,906
of this SOZH Environmental
Control and Life Support System

44
00:02:10,906 --> 00:02:15,076
in the Zvezda module, one of the
station's treadmills as well.

45
00:02:16,456 --> 00:02:19,446
And on late Monday night
at the Baikonur Cosmodrome

46
00:02:19,446 --> 00:02:23,556
in Kazakhstan the Soyuz rocket
with NASA astronaut Joe Acaba

47
00:02:23,556 --> 00:02:27,416
and cosmonauts Gennady Padalka
and Sergei Revin launched

48
00:02:27,416 --> 00:02:32,876
into orbit at 10:01 p.m. Central
time aboard their Soyuz TMA-04M

49
00:02:32,976 --> 00:02:39,456
spacecraft to the
International Space Station.

50
00:02:40,036 --> 00:02:42,716
And on Tuesday the
Expedition 31 crew

51
00:02:42,716 --> 00:02:45,466
of the International Space
Station focused Tuesday

52
00:02:45,466 --> 00:02:49,156
on preparations for the arrival
of those three new crewmates.

53
00:02:50,996 --> 00:02:53,246
Pettit and Kuipers both
began their morning

54
00:02:53,576 --> 00:02:57,376
with the Reaction self test
- a short reaction time task

55
00:02:57,546 --> 00:03:00,366
that allows the crew to
track the effects of fatigue

56
00:03:00,366 --> 00:03:04,286
on performance before moving
onto the day's activities.

57
00:03:06,036 --> 00:03:08,546
Kuipers then collected water
samples throughout the station

58
00:03:08,866 --> 00:03:10,046
testing some of the samples

59
00:03:10,046 --> 00:03:12,866
with the Total Organic
Carbon Analyzer to check

60
00:03:12,916 --> 00:03:15,976
for any contamination and
labeling others for return

61
00:03:15,976 --> 00:03:17,306
to Earth for additional study.

62
00:03:18,916 --> 00:03:21,806
Kuipers also unloaded
additional cargo

63

00:03:21,806 --> 00:03:25,846
from the European Space Agency's
Automated Transfer Vehicle-3

64
00:03:27,386 --> 00:03:30,906
which delivered 7.2 tons
of food, fuel and supplies

65
00:03:31,246 --> 00:03:32,586
when it docked to the aft end

66
00:03:32,586 --> 00:03:35,316
of the Zvezda service
module on March 28.

67
00:03:37,846 --> 00:03:41,136
Also on Tuesday, Pettit had
participated in a session

68
00:03:41,136 --> 00:03:44,216
with the Sprint experiment as
he conducted an Ultrasound scan

69
00:03:44,216 --> 00:03:47,576
of his leg with that remote
guidance from the ground team.

70
00:03:47,686 --> 00:03:50,796
Sprint measures the
effectiveness of high-intensity,

71
00:03:50,796 --> 00:03:53,766
low-volume exercise training
in minimizing the loss

72
00:03:53,766 --> 00:03:55,676
of muscle mass and bone density

73
00:03:56,026 --> 00:03:58,596
that occurs during long-term

exposure to weightlessness.

74
00:04:00,636 --> 00:04:02,656
Pettit performed
a thorough cleanup

75
00:04:02,656 --> 00:04:04,406
of the overhead crew quarters

76
00:04:04,486 --> 00:04:07,536
which are the closet-sized
compartments built

77
00:04:07,536 --> 00:04:11,086
as small staterooms to give
each crew member personal space

78
00:04:11,086 --> 00:04:12,436
to relax and sleep at night.

79
00:04:12,936 --> 00:04:17,416
Each crew quarters contain
lighting, laptop connectivity,

80
00:04:17,476 --> 00:04:20,606
power, fans, ventilation and
a caution and warning system.

81
00:04:21,176 --> 00:04:25,936
And on the Russian side of
the house Kononenko worked

82
00:04:25,936 --> 00:04:27,426
with the Typology experiment

83
00:04:27,426 --> 00:04:30,526
which studies a crew member's
psychophysical state during

84

00:04:30,526 --> 00:04:31,826
long-duration spaceflight.

85
00:04:32,316 --> 00:04:35,326
He conducted an MPEG-2
video test

86
00:04:35,326 --> 00:04:37,796
with the station's KU-band
communication system

87
00:04:39,516 --> 00:04:42,356
to make sure the live views
of the Soyuz rendezvous

88
00:04:42,356 --> 00:04:43,826
and docking will be available

89
00:04:44,116 --> 00:04:45,846
to flight controllers
later this week.

90
00:04:46,316 --> 00:04:50,266
The commander also gathered
treadmill hardware for return

91
00:04:50,266 --> 00:04:55,486
to Earth aboard SpaceX's
Dragon cargo craft that is set

92
00:04:55,486 --> 00:04:58,696
to launch tomorrow and arrive
at the station next week.

93
00:04:58,946 --> 00:05:01,466
Again that launch is
scheduled to launch,

94
00:05:01,466 --> 00:05:04,416
take place at 3:55

a.m. Central time.

95
00:05:05,686 --> 00:05:08,446
And on Wednesday the
International Space Station's

96
00:05:08,546 --> 00:05:10,536
Expedition 31 crew had a shorter

97
00:05:10,536 --> 00:05:14,436
than normal workday Wednesday
going to bed early to prepare

98
00:05:14,436 --> 00:05:17,516
for the impending arrival of
the three new crew members

99
00:05:18,566 --> 00:05:19,756
to the orbital complex.

100
00:05:20,146 --> 00:05:24,226
Station Commander
Kononenko reviewed procedures

101
00:05:24,286 --> 00:05:26,356
for the opening of the
hatch between the complex

102
00:05:26,356 --> 00:05:28,046
and the Soyuz spacecraft.

103
00:05:28,046 --> 00:05:30,836
He also gathered exercise
tools for his new crewmates.

104
00:05:32,006 --> 00:05:34,946
On Wednesday, Pettit and
Kuipers documented their meals

105

00:05:34,946 --> 00:05:37,606
and took water and urine samples
for the Energy experiment

106
00:05:38,276 --> 00:05:40,256
that studies methods
for maintaining crews,

107
00:05:40,506 --> 00:05:44,066
crew members' energy balance and
for counteracting the effects

108
00:05:44,066 --> 00:05:45,586
of long-term exposure

109
00:05:45,586 --> 00:05:47,396
to the microgravity
environment of space.

110
00:05:49,026 --> 00:05:51,276
The pair transferred cargo

111
00:05:51,276 --> 00:05:55,316
from the European Space Agency's
Automated Transfer Vehicle-3

112
00:05:55,316 --> 00:05:58,606
known as "Edoardo
Amaldi" and also spoke

113
00:05:58,606 --> 00:06:02,066
with European YouTube
Spacelab participants

114
00:06:02,066 --> 00:06:04,896
at the European Astronaut
Center in Cologne, Germany.

115
00:06:07,816 --> 00:06:10,626
Pettit and Kuipers spent some

time reviewing docking data

116
00:06:10,626 --> 00:06:12,446
and procedures for
the upcoming arrival

117
00:06:12,446 --> 00:06:17,256
of the SpaceX Dragon
commercial cargo craft.

118
00:06:17,256 --> 00:06:19,986
And late Wednesday night
NASA astronaut Joe Acaba

119
00:06:20,096 --> 00:06:21,906
and Russian cosmonauts
Gennady Padalka

120
00:06:21,906 --> 00:06:26,926
and Sergei Revin aboard their
Soyuz TMA-04M spacecraft docked

121
00:06:27,016 --> 00:06:29,366
to the station's Poisk
mini-research module

122
00:06:29,726 --> 00:06:32,616
at 11:36 Central
time Wednesday night.

123
00:06:33,156 --> 00:06:36,506
The trio joined the
current station residents

124
00:06:36,576 --> 00:06:40,036
to begin a four-month tour of
duty aboard the orbiting complex

125
00:06:40,036 --> 00:06:42,876
when the hatches opened

early Thursday morning

126
00:06:42,996 --> 00:06:49,896
at 3:10 a.m. Flight Engineers
Gennady Padalka, Joe Acaba

127
00:06:49,926 --> 00:06:53,436
and Sergei Revin were welcomed
aboard the orbiting laboratory

128
00:06:53,436 --> 00:06:54,676
after the hatches opened.

129
00:06:55,476 --> 00:06:57,506
All six crew members
then participated

130
00:06:57,506 --> 00:07:01,346
in a greeting ceremony
and conference with family

131
00:07:01,346 --> 00:07:04,796
and mission officials
followed by a safety briefing.

132
00:07:04,796 --> 00:07:09,166
The station crew members
then performed a variety

133
00:07:09,166 --> 00:07:12,476
of post-docking operations and
Soyuz transfers before returning

134
00:07:12,826 --> 00:07:14,976
to the regular science and
maintenance activities.

135
00:07:15,826 --> 00:07:17,876
Pettit had worked with
the SPHERES experiment

136
00:07:17,876 --> 00:07:20,286
troubleshooting the
reference clock.

137
00:07:20,286 --> 00:07:22,876
He also replaced
a manifold bottle

138
00:07:22,876 --> 00:07:25,766
in the Combustion
Integrated Rack experiment

139
00:07:26,236 --> 00:07:28,586
and observed some
microbial samples

140
00:07:28,586 --> 00:07:30,166
for the Environmental
Health System,

141
00:07:30,166 --> 00:07:31,666
the microbial capture device.

142
00:07:33,456 --> 00:07:36,616
Kuipers worked on the water
resource system to prepare

143
00:07:36,616 --> 00:07:39,716
for water transfers and
perform flow measurements

144
00:07:39,716 --> 00:07:43,006
on the Temperature and Humidity
Control Intermodule Ventilation

145
00:07:43,006 --> 00:07:45,616
System, also known as the
space station air-conditioner.

146
00:07:46,996 --> 00:07:49,956
Kononenko worked with the
Identification experiment

147
00:07:49,956 --> 00:07:53,456
which examines the station's
dynamic loads during events

148
00:07:53,516 --> 00:07:55,856
such as docking and reboost.

149
00:07:56,366 --> 00:07:58,936
He also spent some time
in the Russian segment

150
00:07:58,936 --> 00:08:00,446
of the station performing
maintenance

151
00:08:00,446 --> 00:08:01,746
and monitoring its systems.

152
00:08:04,896 --> 00:08:07,066
Meanwhile, the newest
station residents set

153
00:08:07,066 --> 00:08:10,146
up their crew quarters and
began familiarization tasks

154
00:08:10,196 --> 00:08:13,516
as they adjust to life aboard
the orbiting laboratory.

155
00:08:14,036 --> 00:08:18,016
And today, on Friday
Commander Kononenko set

156
00:08:18,016 --> 00:08:19,866

up the sound meter equipment

157
00:08:19,866 --> 00:08:21,326
and gathered noise
level measurements

158
00:08:21,366 --> 00:08:23,116
when the, within the complex.

159
00:08:23,116 --> 00:08:29,136
He performed a check out of
the, Kuipers performed a check

160
00:08:29,136 --> 00:08:30,836
out of the BioLab Glovebox.

161
00:08:31,146 --> 00:08:35,456
Flight Engineer Don Pettit
checked the power supply

162
00:08:35,456 --> 00:08:38,386
on the new image
processing unit and removed

163
00:08:38,386 --> 00:08:42,146
and replaced the
pre-treat tank in the Waist

164
00:08:42,146 --> 00:08:46,766
and Hygiene Compartment and
transferred an EXPRESS laptop

165
00:08:47,116 --> 00:08:49,836
from the EXPRESS rack five
to EXPRESS rack seven.

166
00:08:50,286 --> 00:08:57,886
On his first full day on the
station Acaba took some time

167
00:08:57,886 --> 00:09:00,096
for ISS crew orientation.

168
00:09:00,696 --> 00:09:04,666
He assisted Pettit with
the pre-treat tank remove

169
00:09:04,916 --> 00:09:08,496
and replacement and
powered on the Ham radio

170
00:09:08,946 --> 00:09:10,246
in the Columbus module.

171
00:09:10,766 --> 00:09:13,376
He and Don Pettit then
recorded video messages

172
00:09:13,416 --> 00:09:14,326
for later downlink.

173
00:09:15,076 --> 00:09:17,416
Acaba made his first
journal entry as part

174
00:09:17,416 --> 00:09:19,636
of the Journal study
and participated

175
00:09:19,636 --> 00:09:22,456
in his first private
medical conference aboard the

176
00:09:22,456 --> 00:09:23,506
space station.

177
00:09:26,856 --> 00:09:30,076
Kuipers worked with the Energy
medical equipment experiment.

178
00:09:30,326 --> 00:09:33,116
He inspected the portable
emergency provisions.

179
00:09:33,156 --> 00:09:35,386
This is the portable
fire extinguishers,

180
00:09:35,386 --> 00:09:38,376
the portable breathing apparatus
and extension hose tee kits.

181
00:09:39,776 --> 00:09:42,886
He checked the BioLab
Glovebox seals and gloves

182
00:09:42,886 --> 00:09:44,376
and performed more
troubleshooting

183
00:09:44,376 --> 00:09:45,296
on the SPHERES clock.

184
00:09:45,766 --> 00:09:50,596
And today the newly arrived crew
members will continue to adapt

185
00:09:50,646 --> 00:09:53,586
to the microgravity environment
and become acquainted

186
00:09:53,676 --> 00:09:56,656
with the exercise protocol
aboard the space station.

187
00:09:57,746 --> 00:10:00,706
Inside the station's gym
there is a stationary bicycle,

188
00:10:00,816 --> 00:10:02,236
a treadmill and a machine known

189
00:10:02,236 --> 00:10:04,576
as the Advanced Resistive
Exercise Device

190
00:10:04,626 --> 00:10:07,436
that simulates weightlifting
here on Earth.

191
00:10:09,916 --> 00:10:13,496
The Expedition 31 crew members
will do some evening prep work

192
00:10:13,496 --> 00:10:15,916
before their evening
meal and presleep period.

193
00:10:16,256 --> 00:10:18,356
They also will participate

194
00:10:18,356 --> 00:10:20,836
in their final daily planning
conference before bedtime.