

## Spacewalkers



**CHRIS CASSIDY**  
FLIGHT ENGINEER  
EV1



**LUCA PARMITANO**  
FLIGHT ENGINEER  
EV2

1  
00:00:15,110 --> 00:00:13,749  
good morning and welcome to space

2  
00:00:16,710 --> 00:00:15,120  
station live

3  
00:00:18,550 --> 00:00:16,720  
here in the international space station

4  
00:00:19,750 --> 00:00:18,560  
flight control room at nasa's johnson

5  
00:00:21,590 --> 00:00:19,760  
space center

6  
00:00:23,990 --> 00:00:21,600  
the orbit 2 team currently manning

7  
00:00:25,990 --> 00:00:24,000  
consoles as you can see below you

8  
00:00:27,670 --> 00:00:26,000  
monitoring all the systems onboard this

9  
00:00:29,669 --> 00:00:27,680  
orbiting complex

10  
00:00:31,910 --> 00:00:29,679  
the team right now being led by flight

11  
00:00:34,310 --> 00:00:31,920  
director richard jones joining him at

12  
00:00:35,830 --> 00:00:34,320  
the capcom console is robert

13  
00:00:37,350 --> 00:00:35,840

hanley serving as the voice

14

00:00:39,190 --> 00:00:37,360

communication link between all of our

15

00:00:41,190 --> 00:00:39,200

teams down here on the ground and the

16

00:00:42,790 --> 00:00:41,200

astronauts up in space

17

00:00:45,670 --> 00:00:42,800

those astronauts right now are the crew

18

00:00:47,830 --> 00:00:45,680

of expedition 36 drawing from countries

19

00:00:50,069 --> 00:00:47,840

all over the globe they're currently

20

00:00:52,389 --> 00:00:50,079

being led by russian cosmonaut pavel

21

00:00:53,910 --> 00:00:52,399

vinogradov a veteran space flier on his

22

00:00:54,950 --> 00:00:53,920

third flight to the international space

23

00:00:56,549 --> 00:00:54,960

station

24

00:00:58,150 --> 00:00:56,559

immediately behind him you can see

25

00:01:00,310 --> 00:00:58,160

another russian cosmonaut alexander

26

00:01:02,389 --> 00:01:00,320

berzerkin a rookie space flier and also

27

00:01:04,390 --> 00:01:02,399

nasa astronaut chris cassidy on his

28

00:01:05,990 --> 00:01:04,400

second space flight

29

00:01:07,510 --> 00:01:06,000

rounding out the crew the three newer

30

00:01:09,350 --> 00:01:07,520

members on board the international space

31

00:01:10,789 --> 00:01:09,360

station our third russian cosmonaut

32

00:01:13,030 --> 00:01:10,799

fjord your cheek in there in the front

33

00:01:15,270 --> 00:01:13,040

row on the right and behind him from the

34

00:01:17,350 --> 00:01:15,280

european space agency luca parmitano

35

00:01:18,950 --> 00:01:17,360

also on his first flight and all the way

36

00:01:21,350 --> 00:01:18,960

on the right there rounding out the crew

37

00:01:23,270 --> 00:01:21,360

nasa astronaut karen nyberg on her

38

00:01:24,950 --> 00:01:23,280

second

39

00:01:27,830 --> 00:01:24,960

on board the international space station

40

00:01:29,990 --> 00:01:27,840

the normal bevy of maintenance and

41

00:01:31,830 --> 00:01:30,000

science experiment work going on

42

00:01:33,190 --> 00:01:31,840

starting off with commander vinogradov

43

00:01:35,190 --> 00:01:33,200

who's moving throughout the russian

44

00:01:37,270 --> 00:01:35,200

segment today replacing the dust

45

00:01:38,789 --> 00:01:37,280

collector filters and a lot of the

46

00:01:40,789 --> 00:01:38,799

ventilation ducts

47

00:01:43,590 --> 00:01:40,799

on board that segment he'll also be

48

00:01:45,510 --> 00:01:43,600

working with a russian plasma experiment

49

00:01:47,350 --> 00:01:45,520

which was installed on the external

50

00:01:49,670 --> 00:01:47,360

portion of the zvezda service module

51  
00:01:51,670 --> 00:01:49,680  
during a spacewalk back in april he'll

52  
00:01:53,429 --> 00:01:51,680  
be activating that today

53  
00:01:55,510 --> 00:01:53,439  
the experiment looks to study plasma

54  
00:01:58,069 --> 00:01:55,520  
waves and the effects of space weather

55  
00:01:59,830 --> 00:01:58,079  
on earth's ionosphere

56  
00:02:02,950 --> 00:01:59,840  
meanwhile his fellow russian cosmonaut

57  
00:02:05,030 --> 00:02:02,960  
alexander misurkin will be reconfiguring

58  
00:02:06,709 --> 00:02:05,040  
many of the russian segment systems

59  
00:02:09,270 --> 00:02:06,719  
particularly the piers docking

60  
00:02:11,190 --> 00:02:09,280  
compartment as they continue wrapping up

61  
00:02:12,949 --> 00:02:11,200  
on restoring the russian segment to

62  
00:02:16,150 --> 00:02:12,959  
normal operating procedures following a

63  
00:02:17,589 --> 00:02:16,160

spacewalk which took place last week

64

00:02:19,589 --> 00:02:17,599

you can see

65

00:02:21,350 --> 00:02:19,599

on the back side of the station there

66

00:02:23,990 --> 00:02:21,360

the russian segment

67

00:02:27,270 --> 00:02:24,000

that piers docking compartment

68

00:02:29,190 --> 00:02:27,280

that the astronauts staged their eva out

69

00:02:31,350 --> 00:02:29,200

of one of the only ones without a

70

00:02:33,030 --> 00:02:31,360

visiting vehicle currently attached that

71

00:02:35,030 --> 00:02:33,040

will be taking up most of misurkin's day

72

00:02:37,750 --> 00:02:35,040

today

73

00:02:39,190 --> 00:02:37,760

meanwhile nasa astronaut chris cassidy

74

00:02:41,670 --> 00:02:39,200

quite a

75

00:02:43,750 --> 00:02:41,680

diverse array of tasks for him today he

76  
00:02:46,390 --> 00:02:43,760  
started off working on the a-red device

77  
00:02:48,949 --> 00:02:46,400  
the advanced resistive exercise device

78  
00:02:50,630 --> 00:02:48,959  
it's one of the numerous exercise pieces

79  
00:02:53,350 --> 00:02:50,640  
of equipment for these astronauts on

80  
00:02:55,589 --> 00:02:53,360  
board he needed to replace a

81  
00:02:57,270 --> 00:02:55,599  
key rope component inside of the device

82  
00:02:58,790 --> 00:02:57,280  
in order to make it functional for the

83  
00:03:01,670 --> 00:02:58,800  
astronauts again

84  
00:03:04,149 --> 00:03:01,680  
aside from that he was working doing one

85  
00:03:05,670 --> 00:03:04,159  
quick test run of the spheres experiment

86  
00:03:07,670 --> 00:03:05,680  
sphere standing for synchronized

87  
00:03:09,670 --> 00:03:07,680  
position to hold engage reorient

88  
00:03:11,350 --> 00:03:09,680

experimental satellites these small

89

00:03:13,670 --> 00:03:11,360

bowling ball-sized objects that are

90

00:03:14,710 --> 00:03:13,680

completely self-contained satellites are

91

00:03:17,030 --> 00:03:14,720

used to

92

00:03:19,670 --> 00:03:17,040

test various formation flying algorithms

93

00:03:21,350 --> 00:03:19,680

and also competitions with students

94

00:03:22,790 --> 00:03:21,360

around the country

95

00:03:24,229 --> 00:03:22,800

these ones in particular that he was

96

00:03:25,910 --> 00:03:24,239

working with today controlled by

97

00:03:28,070 --> 00:03:25,920

smartphones flown to the international

98

00:03:29,509 --> 00:03:28,080

space station increasing their computing

99

00:03:31,990 --> 00:03:29,519

power and

100

00:03:33,990 --> 00:03:32,000

adding a functional technology developed

101  
00:03:36,149 --> 00:03:34,000  
on earth for use in space

102  
00:03:39,030 --> 00:03:36,159  
aside from that he was taking some

103  
00:03:41,830 --> 00:03:39,040  
images of the thermal control system

104  
00:03:43,350 --> 00:03:41,840  
out on the what's known as the targe the

105  
00:03:45,990 --> 00:03:43,360  
thermal radiator

106  
00:03:47,910 --> 00:03:46,000  
rotary joint on the p1 truss earlier

107  
00:03:50,229 --> 00:03:47,920  
today

108  
00:03:52,630 --> 00:03:50,239  
meanwhile our third russian cosmonaut uh

109  
00:03:55,190 --> 00:03:52,640  
fjorda girchiken started off his morning

110  
00:03:56,710 --> 00:03:55,200  
taking some saliva and blood collections

111  
00:03:58,789 --> 00:03:56,720  
he'll be storing those in a freezer for

112  
00:04:01,270 --> 00:03:58,799  
eventual downlink back down to the

113  
00:04:02,789 --> 00:04:01,280

ground

114

00:04:05,270 --> 00:04:02,799

aside from that he was working on the

115

00:04:07,190 --> 00:04:05,280

column crystal investigation that's

116

00:04:09,030 --> 00:04:07,200

aimed at studying the dynamics of solid

117

00:04:10,789 --> 00:04:09,040

dispersed environments in an in

118

00:04:13,589 --> 00:04:10,799

homogenous magnetic field in

119

00:04:14,390 --> 00:04:13,599

microgravity crystal formations that can

120

00:04:16,390 --> 00:04:14,400

be

121

00:04:18,229 --> 00:04:16,400

directly affected by

122

00:04:19,670 --> 00:04:18,239

changing the magnetic field that they're

123

00:04:21,430 --> 00:04:19,680

exposed to

124

00:04:23,990 --> 00:04:21,440

meanwhile european astronaut luca

125

00:04:26,550 --> 00:04:24,000

parmitano spending much of his day today

126  
00:04:28,710 --> 00:04:26,560  
inside of the atv vehicle transferring

127  
00:04:30,629 --> 00:04:28,720  
some cargo out into the rest of the

128  
00:04:32,150 --> 00:04:30,639  
station storage structures

129  
00:04:34,310 --> 00:04:32,160  
aside from that he'll be working on the

130  
00:04:36,710 --> 00:04:34,320  
environmental health system taking a

131  
00:04:38,469 --> 00:04:36,720  
sample from the potable water dispenser

132  
00:04:39,909 --> 00:04:38,479  
and also continuing some work that he

133  
00:04:41,749 --> 00:04:39,919  
and cassidy will be doing throughout

134  
00:04:43,510 --> 00:04:41,759  
this week as they prepare for their two

135  
00:04:45,510 --> 00:04:43,520  
upcoming spacewalks

136  
00:04:47,749 --> 00:04:45,520  
today the two will be verifying that

137  
00:04:50,230 --> 00:04:47,759  
their emu or extra vehicular mobility

138  
00:04:52,629 --> 00:04:50,240

units glove heaters are functioning as

139

00:04:54,710 --> 00:04:52,639

expected and also that their suit tv is

140

00:04:58,070 --> 00:04:54,720

receiving power from the reba or the

141

00:05:00,230 --> 00:04:58,080

rechargeable eva battery assembly

142

00:05:02,230 --> 00:05:00,240

the two astronauts scheduled to

143

00:05:05,029 --> 00:05:02,240

conduct two spacewalks over the next two

144

00:05:06,550 --> 00:05:05,039

weeks on july 9th and july 16th

145

00:05:08,230 --> 00:05:06,560

completing a number of tasks on the

146

00:05:10,870 --> 00:05:08,240

external structure of the international

147

00:05:12,870 --> 00:05:10,880

space station and then our six crew

148

00:05:15,189 --> 00:05:12,880

member karen nyberg this morning was

149

00:05:17,110 --> 00:05:15,199

installing some alignment guides inside

150

00:05:19,590 --> 00:05:17,120

of the combustion integrated rack in

151

00:05:22,150 --> 00:05:19,600

order to prepare it for some upcoming

152

00:05:23,909 --> 00:05:22,160

experiment work she'll also be joining

153

00:05:26,390 --> 00:05:23,919

luca parmitano and transferring some

154

00:05:28,710 --> 00:05:26,400

cargo out of that atv vehicle

155

00:05:30,710 --> 00:05:28,720

and finally she'll be also working with

156

00:05:32,950 --> 00:05:30,720

the environmental health system

157

00:05:34,070 --> 00:05:32,960

taking some samples from microbial