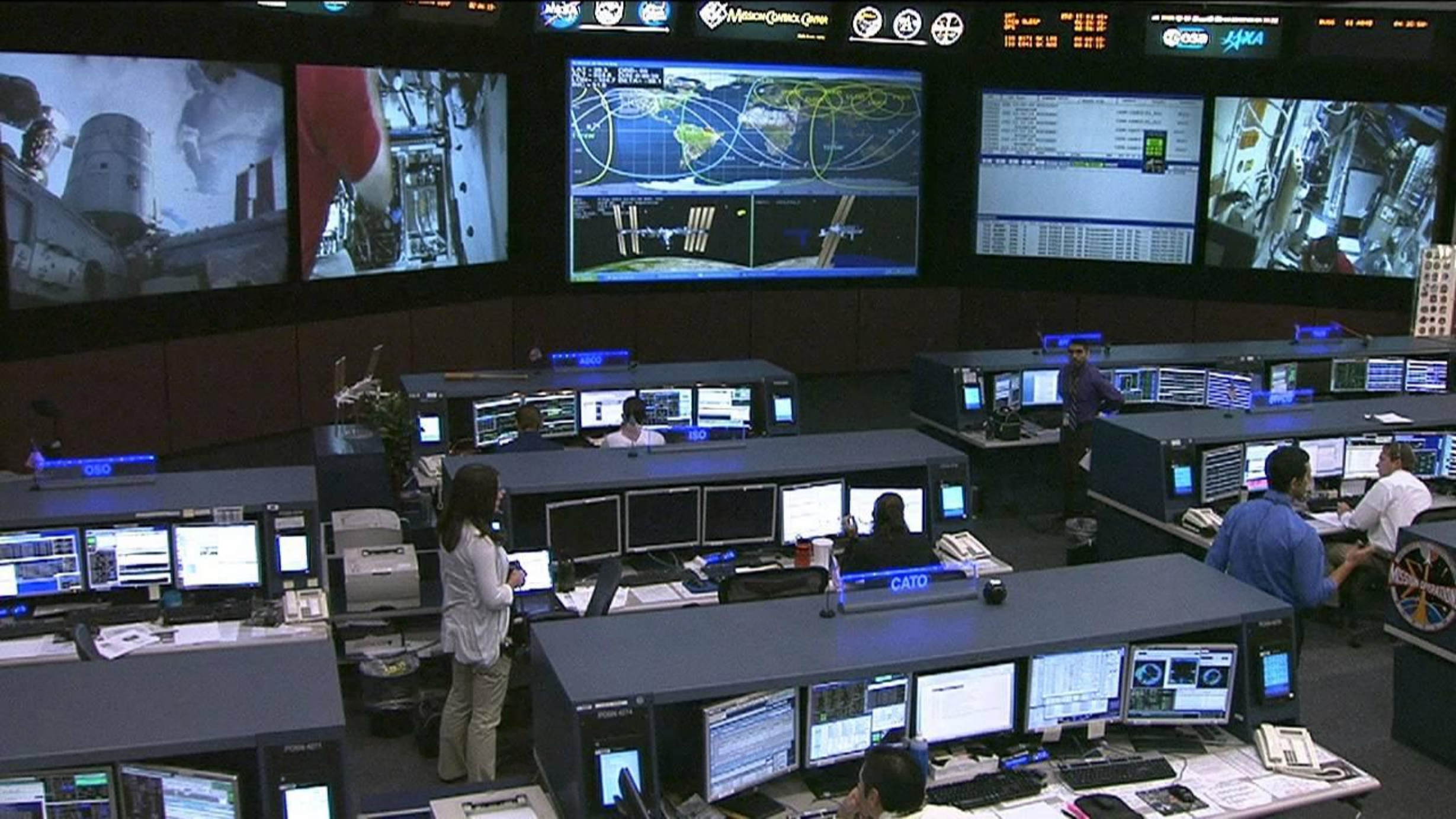
MISSION CONTROL CENTER
JAXA
OSO
ISO
CATO

1
00:00:00,766 --> 00:00:09,575
[Music]

2
00:00:10,509 --> 00:00:12,311
>> Greetings from
Mission Control,

3
00:00:12,311 --> 00:00:14,647
and welcome to Space
Station Live.

4
00:00:14,647 --> 00:00:17,116
It's Monday September 9th, 2013.

5
00:00:17,116 --> 00:00:18,984
And you're getting a
live look now inside

6
00:00:18,984 --> 00:00:22,221
of the International Space
Station flight control room

7
00:00:22,221 --> 00:00:25,157
at the Johnson Space
Center in Houston, Texas.

8
00:00:25,157 --> 00:00:27,426
Inside the room right now
the Orbit 2 team looking

9
00:00:27,426 --> 00:00:30,963
over the crew and the systems of
the International Space Station.

10
00:00:30,963 --> 00:00:32,031
They're being led today

11
00:00:32,031 --> 00:00:34,033
by flight director

Tomas Gonzalez-Torres

12
00:00:34,033 --> 00:00:35,434
of Lightening Flight.

13
00:00:35,434 --> 00:00:38,838
Seated next to him at the cab
composition is NASA astronaut

14
00:00:38,838 --> 00:00:42,274
Cady Coleman serving as the
voice liaison between teams

15
00:00:42,274 --> 00:00:45,878
down here on the ground and the
astronaut crews up in space.

16
00:00:45,878 --> 00:00:50,883
And that crew Expedition 36
counting down its final days

17
00:00:50,883 --> 00:00:53,252
as three astronauts
and cosmonauts prepare

18
00:00:53,252 --> 00:00:54,954
to depart the station.

19
00:00:54,954 --> 00:00:56,489
As of right now though,
they're still led

20
00:00:56,489 --> 00:00:58,791
by Russian cosmonaut
Pavel Vinogradov

21
00:00:58,791 --> 00:01:00,526
in the front row
on the left there.

22
00:01:00,526 --> 00:01:03,629
Behind him another Russia
cosmonaut Alexander Misurkin,

23
00:01:03,629 --> 00:01:06,031
and NASA astronaut
Chris Cassidy.

24
00:01:06,031 --> 00:01:08,434
On the right side
the three astronauts

25
00:01:08,434 --> 00:01:09,835
that will be remaining

26
00:01:09,835 --> 00:01:12,872
on for the International Space
Station Russian cosmonaut Fyodor

27
00:01:12,872 --> 00:01:15,941
Yurchikhin in the front
row on the right there.

28
00:01:15,941 --> 00:01:19,411
Behind him from the European
Space Agency Luca Parmitano.

29
00:01:19,411 --> 00:01:23,749
And all the way on the right
NASA astronaut Karen Nyberg.

30
00:01:23,749 --> 00:01:26,552
As mentioned three will be
departing the International

31
00:01:26,552 --> 00:01:30,456
Space Station tomorrow: Chris
Cassidy, Pavel Vinogradov,

32

00:01:30,456 --> 00:01:31,724
and Alexander Misurkin.

33
00:01:31,724 --> 00:01:33,726
Departing after almost
six months spent

34
00:01:33,726 --> 00:01:36,929
on board the International
Space Station.

35
00:01:36,929 --> 00:01:39,298
Right now they're
scheduled to undock

36
00:01:39,298 --> 00:01:41,700
at 6:35 p.m. Central time.

37
00:01:41,700 --> 00:01:43,169
As with all dynamic events,

38
00:01:43,169 --> 00:01:46,639
we'll be bringing you live
coverage on NASA TV beginning

39
00:01:46,639 --> 00:01:48,274
with our hatch closure coverage

40
00:01:48,274 --> 00:01:51,143
at 3 p.m. All times
are in Central.

41
00:01:51,143 --> 00:01:54,013
On that final hatch
closure after some farewells

42
00:01:54,013 --> 00:01:56,048
between the crew at 3:20.

43

00:01:56,048 --> 00:01:59,952
We'll resume our coverage later
at 6:15 for that plan undocking

44
00:01:59,952 --> 00:02:03,756
at 6:35 p.m. We'll then
break away and bring

45
00:02:03,756 --> 00:02:06,525
up our final broadcast
for landing.

46
00:02:06,525 --> 00:02:11,130
That landing's scheduled to take
place at 9:58 p.m. Central time.

47
00:02:11,130 --> 00:02:15,334
Just to the southeast of
Zhezkazgan and Kazakstan .

48
00:02:15,334 --> 00:02:18,470
Following that we'll be bringing
you a post landing video file

49
00:02:18,470 --> 00:02:23,209
at 11:30 p.m. And then a post
landing activities file the

50
00:02:23,209 --> 00:02:30,683
following day at 11:00 a.m.
But as they continue to prepare

51
00:02:30,683 --> 00:02:32,818
for that landing, the
crew's still very busy

52
00:02:32,818 --> 00:02:35,321
on board the International
Space Station today.

53

00:02:35,321 --> 00:02:38,924
Starting off with departing
commander Pavel Vinogradov.

54
00:02:38,924 --> 00:02:41,393
He's completing his
final exercise run

55
00:02:41,393 --> 00:02:44,163
with the lower body
negative pressure suit.

56
00:02:44,163 --> 00:02:47,766
A special suit that draws the
fluids inside the cosmonaut's

57
00:02:47,766 --> 00:02:52,171
bodies back down into the legs
effectively exerting a force

58
00:02:52,171 --> 00:02:54,340
on their musculoskeletal system.

59
00:02:54,340 --> 00:02:56,175
Just one of the ways
that they're looking

60
00:02:56,175 --> 00:02:59,845
at combating the negative
effects that microgravity have

61
00:02:59,845 --> 00:03:02,881
on these station residents
during their long duration stays

62
00:03:02,881 --> 00:03:06,218
on board the International
Space Station.

63
00:03:06,218 --> 00:03:07,620

Also, on the docket for the day

64
00:03:07,620 --> 00:03:10,322
for Vinogradov is
packing a number of items

65
00:03:10,322 --> 00:03:14,960
into that Soyuz TMA-08M vehicle
that will be carrying him

66
00:03:14,960 --> 00:03:17,730
and two others back
down to earth tomorrow.

67
00:03:17,730 --> 00:03:20,532
You can see a rough
layout of the Soyuz craft.

68
00:03:20,532 --> 00:03:23,736
The middle part known
as the Descent Module.

69
00:03:23,736 --> 00:03:26,238
The only part that will
survive the reentry

70
00:03:26,238 --> 00:03:29,875
through the earth's atmosphere
carrying the two cosmonauts

71
00:03:29,875 --> 00:03:34,046
and one astronaut, as well as
a small contingent of cargo.

72
00:03:34,046 --> 00:03:36,348
Among that cargo will
be some detectors

73
00:03:36,348 --> 00:03:41,220
from a Russian radiation study

experiment known as Matroska

74
00:03:41,220 --> 00:03:42,755
that Vinogradov will be moving

75
00:03:42,755 --> 00:03:44,857
over into the Soyuz
vehicle today.

76
00:03:44,857 --> 00:03:47,593
He'll also be completing
the descent drill

77
00:03:47,593 --> 00:03:51,263
with his fellow Russian
cosmonaut Alexander Misurkin.

78
00:03:51,263 --> 00:03:53,165
And then finally
later this afternoon,

79
00:03:53,165 --> 00:03:55,534
Vinogradov will be participating

80
00:03:55,534 --> 00:03:59,738
in the ceremonial Change
of Command Ceremony.

81
00:03:59,738 --> 00:04:02,808
Handing over command of
the International outpost

82
00:04:02,808 --> 00:04:05,711
to his fellow Russian
cosmonaut Fyodor Yurchikhin.

83
00:04:05,711 --> 00:04:08,981
That Change of Command
Ceremony taking place later this

84
00:04:08,981 --> 00:04:13,052
afternoon on NASA TV at
1:25 p.m. Central time,

85
00:04:13,052 --> 00:04:16,488
2:25 p.m. Eastern.

86
00:04:16,488 --> 00:04:18,724
Meanwhile, Alexander
Misurkin doing

87
00:04:18,724 --> 00:04:21,360
that lower body negative
pressure exercise,

88
00:04:21,360 --> 00:04:24,263
and transferring some items
over to the Soyuz himself.

89
00:04:24,263 --> 00:04:26,265
Among those items
he'll be transferring

90
00:04:26,265 --> 00:04:29,768
from the Russian bioecology
study which is seeking

91
00:04:29,768 --> 00:04:32,638
to use the radiation and
microgravity environment

92
00:04:32,638 --> 00:04:36,208
of space to produce improve
strained of microorganisms

93
00:04:36,208 --> 00:04:39,111
that can help improve
the biodegradation

94

00:04:39,111 --> 00:04:42,414
of oil pollutants
inside the environment.

95
00:04:42,414 --> 00:04:44,516
They'll also be doing
some final air

96
00:04:44,516 --> 00:04:48,420
and microbial sampling
throughout the Russian segment.

97
00:04:48,420 --> 00:04:51,423
Also on that Soyuz coming home
Chris Cassidy is collecting

98
00:04:51,423 --> 00:04:54,893
and preparing his final human
research facility samples.

99
00:04:54,893 --> 00:04:58,530
Taking some final blood,
urine, and saliva samples

100
00:04:58,530 --> 00:05:01,700
that will be stored in
freezers and used as part

101
00:05:01,700 --> 00:05:05,637
of the overall study of Cassidy.

102
00:05:05,637 --> 00:05:08,507
Tracking his physical changes
during his long duration

103
00:05:08,507 --> 00:05:09,908
space flight.

104
00:05:09,908 --> 00:05:13,746
He'll also be accomplishing his

final maintenance task while an

105
00:05:13,746 --> 00:05:15,347
Expedition crew member.

106
00:05:15,347 --> 00:05:18,751
Removing and replacing the water
recovery systems fluid, control,

107
00:05:18,751 --> 00:05:23,555
and pump assembly inside
a tranquility module.

108
00:05:23,555 --> 00:05:27,593
Meanwhile, on coming Expedition
37 Commander Fyodor Yurchikhin

109
00:05:27,593 --> 00:05:31,029
will be assisting with some
of those Soyuz packing items.

110
00:05:31,029 --> 00:05:33,766
And also setting up
an Orlon battery pack.

111
00:05:33,766 --> 00:05:36,635
One of the battery packs from
the Russian space suit used

112
00:05:36,635 --> 00:05:39,638
for space walks setting
that up for discharge.

113
00:05:39,638 --> 00:05:41,006
Again, taking over command

114
00:05:41,006 --> 00:05:45,210
of the International Space
Station later this afternoon.

115
00:05:45,210 --> 00:05:48,814
Meanwhile, European Luca
Parmitano taking some samples

116
00:05:48,814 --> 00:05:52,351
himself for the Human Research
Facility on the U.S. segment.

117
00:05:52,351 --> 00:05:55,154
He'll also be preparing the
combustion integrated rack

118
00:05:55,154 --> 00:05:58,023
for some upcoming experiments
on board the station.

119
00:05:58,023 --> 00:05:59,691
That combustion integrated rack.

120
00:05:59,691 --> 00:06:01,260
The only combustion
research facility

121
00:06:01,260 --> 00:06:04,963
on board the station
capable of handling a variety

122
00:06:04,963 --> 00:06:07,399
of combustion experiments
in microgravity,

123
00:06:07,399 --> 00:06:09,001
such as the vast experiment

124
00:06:09,001 --> 00:06:11,170
with the burning
suppression of solids.

125
00:06:11,170 --> 00:06:12,805

Providing a safe environment

126
00:06:12,805 --> 00:06:18,210
for these combustion experiments
inside of the orbiting outpost.

127
00:06:18,210 --> 00:06:22,448
Will also be setting up a
robotic work station as he

128
00:06:22,448 --> 00:06:26,051
and Karen Nyberg will be
participating in some rendezvous

129
00:06:26,051 --> 00:06:31,156
on grapple on board training
for the upcoming Cygnus vehicle.

130
00:06:31,156 --> 00:06:34,526
Cygnus, the orbital cargo ship,

131
00:06:34,526 --> 00:06:36,829
scheduled to launch just
a little over a week

132
00:06:36,829 --> 00:06:39,198
from now on September 17th.

133
00:06:39,198 --> 00:06:41,033
Will be doing its
first cargo run

134
00:06:41,033 --> 00:06:43,101
to the International
Space Station.

135
00:06:43,101 --> 00:06:45,237
Demonstrating its
successful completion

136
00:06:45,237 --> 00:06:47,039
of the commercial
orbital transportation

137
00:06:47,039 --> 00:06:49,508
services contract.

138
00:06:49,508 --> 00:06:53,111
Meanwhile, Karen Nyberg
removing 17 dosimeters

139
00:06:53,111 --> 00:06:55,981
from throughout the
Japanese experiment module

140
00:06:55,981 --> 00:06:58,250
for return on that Soyuz craft.

141
00:06:58,250 --> 00:07:00,853
Also, much of her
day will be dominated