



1

00:00:01,870 --> 00:00:04,090

Good morning, this is Mission Control Houston.

2

00:00:04,090 --> 00:00:07,340

Welcome and thank you for joining us today for today's edition

3

00:00:07,340 --> 00:00:10,420

of ISS update this Friday, March 23.

4

00:00:10,420 --> 00:00:14,650

We're now coming to you live from inside the International Space Station flight control room

5

00:00:14,650 --> 00:00:17,390

where the team here has been monitoring the systems aboard the station

6

00:00:17,390 --> 00:00:21,930

and supporting today's activities of the Expedition 30 crew members.

7

00:00:21,930 --> 00:00:29,020

Leading the orbit two team here today is flight director Mike Lammers,

8

00:00:29,020 --> 00:00:32,430

shown here on the right-hand side of your screen in the blue shirt

9

00:00:32,430 --> 00:00:40,610

with astronaut Dan Tani serving as Capcom who is relaying all messages up to the crew.

10

00:00:40,610 --> 00:00:42,810

The space station with its crew aboard is now flying

11

00:00:42,810 --> 00:00:48,610

at an altitude of about 240 statute miles.

12
00:00:48,610 --> 00:00:54,380
The orbiting facility is making a southeastern track across the South Atlantic ocean just

13
00:00:54,380 --> 00:00:58,070
between the east coast of Brazil and west coast of Africa.

14
00:01:02,790 --> 00:01:07,540
Circling the world every 90 minutes aboard the station the six crew members will soon reach a

15
00:01:07,540 --> 00:01:12,940
close of week 15 in what has been yet another busy week of Expedition 30.

16
00:01:12,940 --> 00:01:16,440
The six crew members aboard the station now include NASA astronaut and Commander

17
00:01:16,440 --> 00:01:20,990
of the complex Dan Burbank and Flight Engineers and cosmonauts Anton Shkaplerov

18
00:01:20,990 --> 00:01:27,130
and Anatoly Ivanishin, as well as NASA astronaut Don Pettit cosmonaut Oleg Kononenko

19
00:01:27,130 --> 00:01:31,550
and European Space Agency astronaut Andre Kuipers.

20
00:01:31,550 --> 00:01:33,820
Top in the news for the International Space Station,

21
00:01:33,820 --> 00:01:39,590
the European Space Agency's Automated Transfer

Vehicle three Edoardo Amaldi successfully

22
00:01:39,590 --> 00:01:46,810
launched late last night as scheduled at 11:34
PM central time atop an Ariane five rocket

23
00:01:46,810 --> 00:01:50,200
from the Ariane space launch
site in Kourou, French Guiana.

24
00:01:50,200 --> 00:01:56,310
At the time of launch the
station was flying about 243 miles

25
00:01:56,310 --> 00:01:59,470
above the South Pacific Ocean west of Chile.

26
00:01:59,470 --> 00:02:04,150
Edoardo Amaldi reached its planned orbit
and deployed its solar arrays about an hour

27
00:02:04,150 --> 00:02:06,480
and a half after it launched last night.

28
00:02:06,480 --> 00:02:11,270
The unmanned cargo spacecraft is then scheduled
to dock to the International Space Station

29
00:02:11,270 --> 00:02:20,900
at 5:32 PM on Wednesday, March 28, delivering
220 pounds of oxygen, 628 pounds of water,

30
00:02:20,900 --> 00:02:27,630
4.5 tons of propellant and nearly 2.5 tons
of dry cargo including experiment hardware,

31
00:02:27,630 --> 00:02:44,920
spare parts, food and clothing.,
And now for look back

32

00:02:44,920 --> 00:02:47,530

at this week aboard the International Space Station.

33

00:02:47,530 --> 00:02:50,800

The Expedition 30 crew kicked off the week with science.

34

00:02:50,800 --> 00:02:54,890

Flight Engineer Don Pettit worked with the Structure And Liftoff In Combustion Experiment

35

00:02:54,890 --> 00:02:58,770

or SLICE, which investigates the nature of flames in microgravity.

36

00:02:58,770 --> 00:03:00,750

Results from SLICE could lead to improvements

37

00:03:00,750 --> 00:03:04,280

in pollution control technology and fuel efficiency.

38

00:03:04,280 --> 00:03:08,990

On Monday Flight Engineer Andre Kuipers performed three experiments using the Nano

39

00:03:08,990 --> 00:03:13,670

Rack's Smart Phone which looks at how smartphones operate in space.

40

00:03:13,670 --> 00:03:17,860

The hope is to use the compact hardware in future research studies

41

00:03:17,860 --> 00:03:22,620

and to augment crew performance and productivity and operational activities.

42

00:03:24,480 --> 00:03:28,100

Meanwhile, Oleg Kononenko took photographs of Earth as part

43

00:03:28,100 --> 00:03:31,780

of the Russian Uragan earth imaging program which is the name

44

00:03:31,780 --> 00:03:34,240

for the Russian word for hurricane.

45

00:03:34,240 --> 00:03:40,580

Uragan is a ground and space-based system for predicting natural and man-made disasters.

46

00:03:40,580 --> 00:03:43,870

Also on Monday, Commander Dan Burbank took water samples

47

00:03:43,870 --> 00:03:47,850

from the environmental health monitoring system and Water Recovery System.

48

00:03:47,850 --> 00:03:52,540

He also analyzed the samples with the Total Organic Carbon Analyzer which is necessary

49

00:03:52,540 --> 00:03:55,220

for checking drinking water quality.

50

00:03:59,200 --> 00:04:03,020

On Tuesday the crew upgraded the station communication system.

51

00:04:03,020 --> 00:04:07,960

Commander Dan Burbank began his day installing a High Rate Communication System connector panel

52

00:04:07,960 --> 00:04:09,690

in the Destiny laboratory.

53
00:04:09,690 --> 00:04:14,970
Additional cable routing work is planned in the next few weeks ahead along with the installation

54
00:04:14,970 --> 00:04:21,360
of improved Ethernet hub Gateway and KU communications unit later this year

55
00:04:21,360 --> 00:04:26,100
to support this upgrade to the station's KU band system.

56
00:04:27,160 --> 00:04:32,250
Once it's fully installed and operational it will provide substantially faster uplink

57
00:04:32,250 --> 00:04:36,920
and downlink speeds, improved bandwidth, two extra voice communication links

58
00:04:36,920 --> 00:04:42,150
and two additional video downlink channels.

59
00:04:42,150 --> 00:04:46,830
Later on Tuesday the commander inspected the flush water lines and water valve block

60
00:04:46,830 --> 00:04:52,530
of the Waste Hygiene Compartment to track down the source of air bubbles in the system.

61
00:04:54,270 --> 00:04:58,970
Fight Engineers Don Pettit and Andre Kuipers spent much of their time working in concert.

62
00:04:58,970 --> 00:05:02,880
They participated in a periodic health status evaluation.

63

00:05:02,880 --> 00:05:06,770

The results from these routine physical exams are downlinked to researchers

64

00:05:06,770 --> 00:05:13,380

who then track any changes to crew health due to the long-term exposure to microgravity.

65

00:05:13,380 --> 00:05:18,680

Also on Tuesday Pettit began his work to load software on a laptop computer associated

66

00:05:18,680 --> 00:05:24,190

with an EXPRESS rack that enables quick, simple integration of up to 10 experiment payloads.

67

00:05:24,190 --> 00:05:27,790

Then in the Russian side of the house Kononenko, Shkaplerov

68

00:05:27,790 --> 00:05:31,680

and Ivanishin had performed routine maintenance on the life-support system

69

00:05:31,680 --> 00:05:36,460

in the Elektron oxygen generator and conducted several experiments.

70

00:05:37,670 --> 00:05:42,320

Shkaplerov also worked with the Bar experiment which looks at methods and instruments

71

00:05:42,320 --> 00:05:46,120

for detecting the location of loss of pressure with the station.

72

00:05:46,120 --> 00:05:49,340

He also worked with Ivanishin later with the Typology experiment

73
00:05:49,340 --> 00:05:54,410
that studies a crew member's psychophysical
state during long-duration spaceflight.

74
00:05:58,030 --> 00:06:02,430
Then on Wednesday station
residents got ready for ATV-3,

75
00:06:02,430 --> 00:06:06,740
Europe's third cargo craft the
Automated Transfer Vehicle 3 that was set

76
00:06:06,740 --> 00:06:12,770
to launch Thursday night at 11:34 PM
central time from Kourou, French Guiana.

77
00:06:12,770 --> 00:06:17,240
The Edoardo Amaldi spacecraft that successfully
launched last night is now on its way

78
00:06:17,240 --> 00:06:22,180
to the International Space
Station with its 7.2 tons of cargo.

79
00:06:24,180 --> 00:06:28,670
Flight Engineers Oleg Kononenko and
Andre Kuipers reviewed rendezvous

80
00:06:28,670 --> 00:06:33,320
and docking procedures ahead of the
Automated Transfer Vehicle 3 launch.

81
00:06:33,320 --> 00:06:38,220
They are the two that are responsible for
monitoring its automated arrival and docking.

82
00:06:38,220 --> 00:06:42,960
Before beginning their ATV 3 reviews,
Kuipers wore gear for an experiment

83

00:06:42,960 --> 00:06:47,890

that that observes the decrease in blood pressure that occurs in microgravity.

84

00:06:47,890 --> 00:06:52,100

Kononenko took part in a study that assesses the crew members' mental state

85

00:06:52,100 --> 00:06:55,720

and how it impacts spaceflight performance.

86

00:06:55,720 --> 00:07:00,180

The rest of the six-member crew focused on science and station maintenance on Wednesday.

87

00:07:00,180 --> 00:07:05,960

Commander Burbank had taken high-resolution photographs of crystal samples

88

00:07:05,960 --> 00:07:09,450

from the Binary Colloidal Alloy Test 5 experiment.

89

00:07:09,450 --> 00:07:13,980

During the afternoon he switched hats from a scientist to a plumber and removed

90

00:07:13,980 --> 00:07:17,750

and replaced a pretreat water pump on the Waste Hygiene Compartment.

91

00:07:17,750 --> 00:07:23,710

Pettit then changed out and reconfigured laptop computers on those two EXPRESS computers,

92

00:07:23,710 --> 00:07:28,240

one in the Kibo laboratory and also one in the Destiny laboratory.

93

00:07:28,240 --> 00:07:34,660

He then scanned his legs with the ultrasound for the Sprint experiment which evaluates exercise

94

00:07:34,660 --> 00:07:40,800

and its ability to minimize the effects of long-duration space missions.

95

00:07:44,090 --> 00:07:48,300

Here now we're getting a at live view outside the International Space Station.

96

00:07:48,300 --> 00:07:52,240

Yesterday on Thursday the European cargo craft that is now on its way

97

00:07:52,240 --> 00:07:56,700

to the International Space Station was the primary focus of work aboard the station.

98

00:07:56,700 --> 00:08:01,680

Commander Burbank, Pettit and Kuipers worked on the stowage and relocation of cargo

99

00:08:01,680 --> 00:08:06,700

in the Permanent Multipurpose Module also known as Leonardo to make room for the cargo

100

00:08:06,700 --> 00:08:14,020

that will soon arrive aboard the ATV after it docks to the station next week on March 28.

101

00:08:16,040 --> 00:08:20,500

Yesterday also Kuipers performed maintenance to the Water Recovery System.

102

00:08:20,500 --> 00:08:25,590

Ivanishin worked with the Pneumocard experiment, which observes the adaptation

103

00:08:25,590 --> 00:08:32,180
of the cardiovascular system during long-term
missions and Kononenko took more photographs

104
00:08:32,180 --> 00:08:35,700
as part of the Russian Urugan or
hurricane experiment that aims

105
00:08:35,700 --> 00:08:39,670
to predict natural and man-made disasters.

106
00:08:42,290 --> 00:08:47,240
Meanwhile, the European Space Agency's
Automated Transfer Vehicle 3 was set for launch

107
00:08:47,240 --> 00:08:50,970
as the crew went to bed Thursday
at 3:30 PM central time.

108
00:08:50,970 --> 00:08:55,070
While the crew was scheduled to be asleep
mission control Houston uplinked real-time video

109
00:08:55,070 --> 00:08:58,620
of last night's successful launch
from Kourou, French Guiana.

110
00:08:58,620 --> 00:09:03,760
The spacecraft with its 7 tons of supplies
is now en route to the space station.

111
00:09:03,760 --> 00:09:07,750
Edoardo Amaldi is scheduled to arrive and
link up with the station next Wednesday,

112
00:09:07,750 --> 00:09:13,730
March 28 with a docking time
at 5:32 PM central time.

113
00:09:13,730 --> 00:09:17,880

You're now getting a live view inside the International Space Station flight control room

114

00:09:17,880 --> 00:09:22,080

where the orbit two team continues to monitor the systems and the activities

115

00:09:22,080 --> 00:09:24,660

of the crew aboard the International Space Station.

116

00:09:24,660 --> 00:09:29,310

Today this Friday, March 23, Edoardo Amaldi's anticipated arrival

117

00:09:29,310 --> 00:09:33,790

at the station takes center stage aboard the International Space Station.

118

00:09:33,790 --> 00:09:39,700

Commander Burbank and his crew will spent a few hours today moving some items out of storage

119

00:09:39,700 --> 00:09:44,000

for the Permanent Multipurpose Module to make room for the cargo now on its way

120

00:09:44,000 --> 00:09:51,790

to the station set to arrive next week.

121

00:09:51,790 --> 00:09:56,280

Meanwhile, Flight Engineers Oleg Kononenko and Andre Kuipers are participating

122

00:09:56,280 --> 00:10:00,910

in an onboard training with the rendezvous and docking simulation to practice and prepare

123

00:10:00,910 --> 00:10:06,050

for the arrival of the European space

agency's Automated Transfer Vehicle 3.

124

00:10:07,270 --> 00:10:13,290

Kononenko and Kuipers are the two crew members
will be responsible for monitoring spacecraft

125

00:10:13,290 --> 00:10:17,760

as it approaches and docks to the
aft port of the Zvezda module.

126

00:10:25,300 --> 00:10:33,000

And here is some animation of the ATV 3 as
it approaches the International Space Station

127

00:10:35,560 --> 00:10:41,420

and is what Kononenko and Kuipers will
be monitoring next Wednesday, March 28.

128

00:10:41,420 --> 00:10:47,810

Again that docking is scheduled to
take place at 5:32 PM central time.

129

00:10:47,810 --> 00:10:53,170

Also today Commander Burbank has
conducted a six-month maintenance tuneup

130

00:10:53,170 --> 00:10:58,340

on the onboard treadmill, one of three types
of exercise equipment in the space gym.

131

00:10:58,340 --> 00:11:03,590

Other equipment includes a stationary bicycle
and the Advanced Resistive Exercise Device

132

00:11:03,590 --> 00:11:06,830

that simulates weightlifting here on Earth.

133

00:11:06,830 --> 00:11:10,540

He also spent some time cleaning
bacteria filters in nodes 1,

134

00:11:10,540 --> 00:11:15,880

2 and 3 of the space station while
Flight Engineer Don Pettit is working

135

00:11:15,880 --> 00:11:20,490

with the Microgravity Science Glovebox
to conduct the Structure and Liftoff

136

00:11:20,490 --> 00:11:23,230

And Combustion Experiment or SLICE

137

00:11:23,230 --> 00:11:26,930

which investigates the nature
of flames in microgravity.

138

00:11:26,930 --> 00:11:28,860

Results from SLICE could lead to improvements

139

00:11:28,860 --> 00:11:32,160

in pollution control technology
and fuel efficiency.

140

00:11:32,160 --> 00:11:35,550

And later today Commander Burbank
and Flight Engineers Don Pettit

141

00:11:35,550 --> 00:11:38,810

and Andre Kuipers will take a
break to talk with Bloomberg,

142

00:11:38,810 --> 00:11:45,160

Moscow as part of a documentary
on US Russian space cooperation.

143

00:11:45,160 --> 00:11:50,610

That interview will air live here on
NASA Television at 10:40 AM central time.