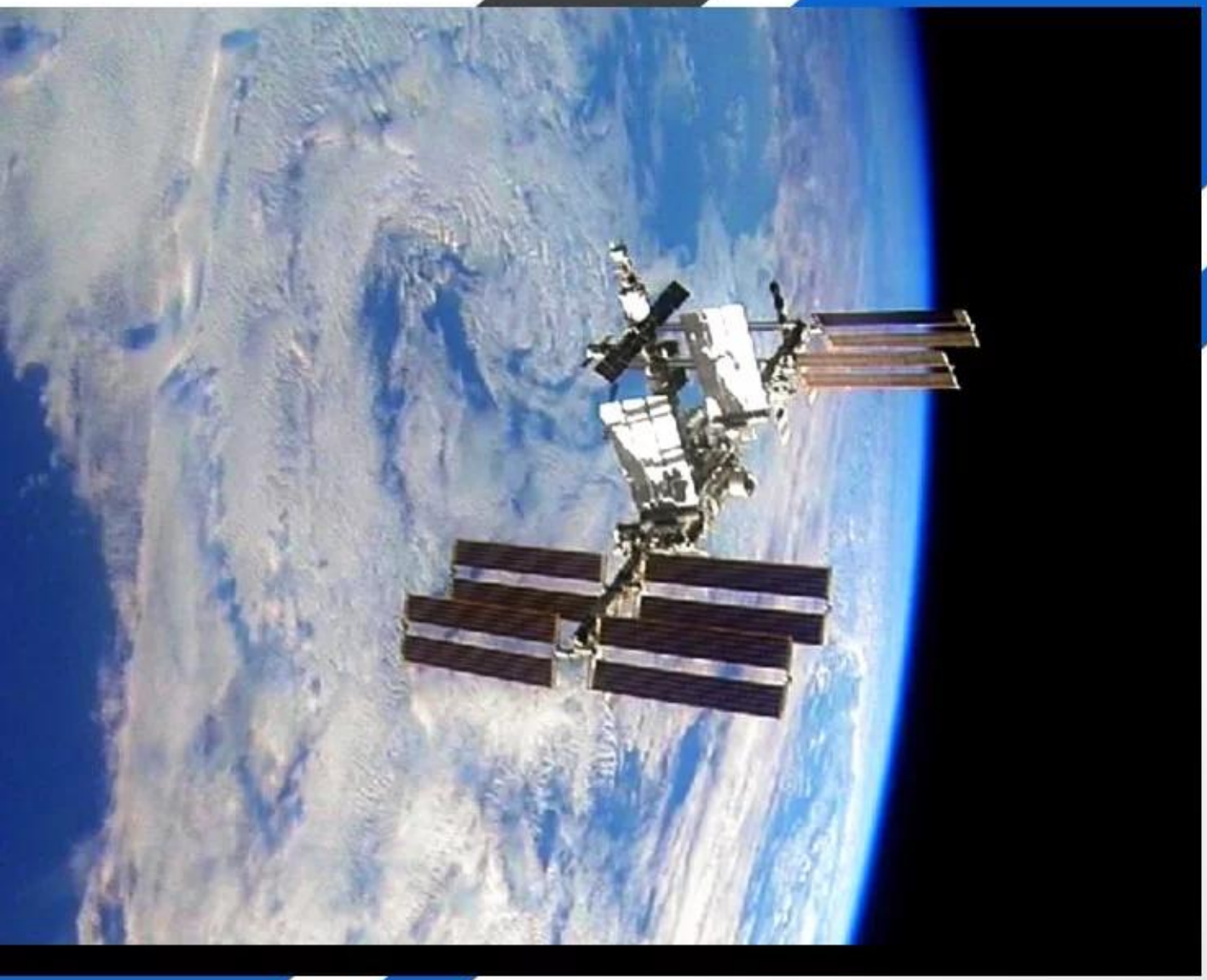

SPACE TO GROUND

1
00:00:00,900 --> 00:00:02,900
"Houston, Station on Space to Ground."

2
00:00:03,200 --> 00:00:05,470
I'm going to have to talk really quickly to

3
00:00:05,470 --> 00:00:08,139
fit all of 2016 in one show.

4
00:00:08,139 --> 00:00:10,600
Welcome to Space to Ground I'm Dan Huot

5
00:00:10,600 --> 00:00:13,900
2016 was packed with incredible events

6
00:00:13,900 --> 00:00:15,790
on the station so let's cover a few

7
00:00:15,790 --> 00:00:17,680
highlights starting with the science.

8
00:00:17,680 --> 00:00:20,770
Scott Kelly and Mikhail Kornienko ended

9
00:00:20,770 --> 00:00:22,960
their one-year mission writing several

10
00:00:22,960 --> 00:00:24,970
new chapters and human research and

11
00:00:24,970 --> 00:00:27,369
preparing humanity to spend extremely

12
00:00:27,369 --> 00:00:30,010
long amount of time in space, exactly

13
00:00:30,010 --> 00:00:32,600

what we'll be doing on the journey to Mars.

14
00:00:32,600 --> 00:00:34,270
One technology that could shape the

15
00:00:34,270 --> 00:00:36,670
way humans travel to Mars and beyond is

16
00:00:36,670 --> 00:00:39,100
the first human rated expandable habitat

17
00:00:39,100 --> 00:00:41,410
the Bigelow Expandable Activity Module

18
00:00:41,410 --> 00:00:43,870
or BEAM which was installed during some

19
00:00:43,870 --> 00:00:46,200
exciting robotics in May.

20
00:00:46,200 --> 00:00:48,879
And keeping a unique eye on our planet, the Meteor

21
00:00:48,879 --> 00:00:50,980
payload has been watching space rocks

22
00:00:50,980 --> 00:00:53,230
burn up in our atmosphere to help study

23
00:00:53,230 --> 00:00:55,300
their composition and behavior,

24
00:00:55,300 --> 00:00:57,070
the only time shooting stars have been

25
00:00:57,070 --> 00:01:00,280
observed from space. And in an exciting

26
00:01:00,280 --> 00:01:01,809
demonstration of molecular biology

27
00:01:01,809 --> 00:01:05,560
NASA's Kate Rubins sequenced DNA in space

28
00:01:05,560 --> 00:01:07,479
for the first time ever,

29
00:01:07,479 --> 00:01:10,900
ultimately sequencing over 2 billion base pairs.

30
00:01:10,900 --> 00:01:12,850
DNA sequencing could help

31
00:01:12,850 --> 00:01:14,529
identify microbes on the space station

32
00:01:14,529 --> 00:01:17,499
or one day help identify signs of life

33
00:01:17,499 --> 00:01:19,600
on distant planets.

34
00:01:19,600 --> 00:01:24,300
And like most years, there were tons of launches spacewalks and more.

35
00:01:24,300 --> 00:01:26,889
Four Soyuz craft launched crews

36
00:01:26,889 --> 00:01:28,749
to the station with crew members coming

37
00:01:28,749 --> 00:01:32,200
from the US, Russia, Japan and France.

38
00:01:32,200 --> 00:01:34,599

Seven cargo vehicles carried supplies to

39
00:01:34,599 --> 00:01:37,659
the station and 2016 including two SpaceX

40
00:01:37,659 --> 00:01:40,899
Dragons, two Orbital ATK Cygnus',

41
00:01:40,899 --> 00:01:43,359
two Russian Progresses, and a Japanese HTV.

42
00:01:43,359 --> 00:01:46,450
Four spacewalks also took place

43
00:01:46,450 --> 00:01:48,130
including the installation of the

44
00:01:48,130 --> 00:01:50,590
International Docking Adapter for use by

45
00:01:50,590 --> 00:01:53,200
future US Commercial Crew vehicles.

46
00:01:53,200 --> 00:01:55,329
And in May the space station marked its

47
00:01:55,329 --> 00:01:58,509
100,000 orbit around the earth traveling

48
00:01:58,509 --> 00:02:02,200
a distance of more than 2.6 billion miles.

49
00:02:02,200 --> 00:02:04,899
And 2017 will start off busy as

50
00:02:04,899 --> 00:02:07,149
ever with a lot in store for the orbital

51
00:02:07,149 --> 00:02:07,990
laboratory.

52
00:02:07,990 --> 00:02:10,360
There will be two major space walks in

53
00:02:10,360 --> 00:02:12,370
the first two weeks of the new year with

54
00:02:12,370 --> 00:02:14,230
the Expedition 50 crew installing new

55
00:02:14,230 --> 00:02:16,599
lithium-ion batteries on the station on

56
00:02:16,599 --> 00:02:20,110
January 6th and 13th. Later on NASA's Peggy

57
00:02:20,110 --> 00:02:21,610
Whitson will become the first female

58
00:02:21,610 --> 00:02:23,680
astronaut to command the station twice

59
00:02:23,680 --> 00:02:25,510
when she assumes the reins for

60
00:02:25,510 --> 00:02:28,330
Expedition 51. Several astronauts will

61
00:02:28,330 --> 00:02:30,370
also be making their first trip to space

62
00:02:30,370 --> 00:02:32,830
next year including NASA astronauts Jack

63
00:02:32,830 --> 00:02:35,380

Fisher, Mark VandeHei and Scott Tingle.

64
00:02:35,380 --> 00:02:39,130
And by the end of 2017 NASA's Commercial

65
00:02:39,130 --> 00:02:41,590
Crew program will be ramping up as we

66
00:02:41,590 --> 00:02:43,390
get closer to sending crews to the

67
00:02:43,390 --> 00:02:45,730
station on U.S. spacecraft for the first

68
00:02:45,730 --> 00:02:48,500
time since the Space Shuttle retired.

69
00:02:48,500 --> 00:02:50,260
We'll close this year with a special

70
00:02:50,260 --> 00:02:52,120
message from the crew for the holidays.

71
00:02:52,120 --> 00:02:54,970
Keep sending your questions in 2017

72
00:02:54,970 --> 00:02:57,160
using the hashtag Space-to-Ground, we'll

73
00:02:57,160 --> 00:02:58,390
see you next year.

74
00:02:58,390 --> 00:03:02,200
"I think being onboard the ISS gives us a

75
00:03:02,200 --> 00:03:04,030
slightly different perspective of

76
00:03:04,030 --> 00:03:06,130
Christmas and that's seeing the planet

77
00:03:06,130 --> 00:03:08,290
as a whole. And it actually reinforces

78
00:03:08,290 --> 00:03:11,349
the fact that we should live as one

79
00:03:11,349 --> 00:03:13,570
people and strive for peace."