



1
00:00:12,070 --> 00:00:09,669
over the last two decades 16 countries

2
00:00:14,470 --> 00:00:12,080
from around the world led by the united

3
00:00:17,029 --> 00:00:14,480
states have combined their design and

4
00:00:19,670 --> 00:00:17,039
transportation resources to create the

5
00:00:22,390 --> 00:00:19,680
international space station its primary

6
00:00:24,950 --> 00:00:22,400
mission to conduct valuable scientific

7
00:00:27,990 --> 00:00:24,960
experiments and improve the quality of

8
00:00:30,070 --> 00:00:28,000
life for all humankind

9
00:00:31,509 --> 00:00:30,080
as astronauts conduct these experiments

10
00:00:34,389 --> 00:00:31,519
called payloads onboard the

11
00:00:36,229 --> 00:00:34,399
international space station orbiting 210

12
00:00:38,069 --> 00:00:36,239
miles above the planet they're also

13
00:00:40,310 --> 00:00:38,079

working in partnership with hundreds of

14

00:00:42,069 --> 00:00:40,320

scientists from around the world and all

15

00:00:43,830 --> 00:00:42,079

scientific data and communications are

16

00:00:46,069 --> 00:00:43,840

funneled through this room

17

00:00:47,990 --> 00:00:46,079

welcome to the payload operations center

18

00:00:49,190 --> 00:00:48,000

here at nasa's marshall space flight

19

00:00:51,110 --> 00:00:49,200

center

20

00:00:53,189 --> 00:00:51,120

while the astronauts are hard at work in

21

00:00:55,189 --> 00:00:53,199

space the team here in the payload

22

00:00:57,750 --> 00:00:55,199

operations center becomes the focal

23

00:01:00,150 --> 00:00:57,760

point for u.s science activities on

24

00:01:02,389 --> 00:01:00,160

board the space station mike fink space

25

00:01:05,350 --> 00:01:02,399

station astronaut during his stay on the

26

00:01:07,910 --> 00:01:05,360

station the ground teams here work 24

27

00:01:09,510 --> 00:01:07,920

hours a day seven days a week to manage

28

00:01:11,750 --> 00:01:09,520

the use of space station payload

29

00:01:13,910 --> 00:01:11,760

resources as well as send remote

30

00:01:16,390 --> 00:01:13,920

commands and data transmissions to the

31

00:01:18,230 --> 00:01:16,400

orbiting research center

32

00:01:20,070 --> 00:01:18,240

they are essentially another crew member

33

00:01:22,550 --> 00:01:20,080

and they are also our friends with whom

34

00:01:24,149 --> 00:01:22,560

we communicate daily coordinating

35

00:01:25,749 --> 00:01:24,159

research on the space station is a

36

00:01:27,590 --> 00:01:25,759

complex process

37

00:01:30,310 --> 00:01:27,600

and it all begins with a payload

38

00:01:32,230 --> 00:01:30,320

operations director my job as the leader

39

00:01:34,710 --> 00:01:32,240

of the payload operations center flight

40

00:01:36,630 --> 00:01:34,720

control team is to guide the execution

41

00:01:38,710 --> 00:01:36,640

of the nasa payload activities aboard

42

00:01:40,550 --> 00:01:38,720

the international space station i

43

00:01:42,630 --> 00:01:40,560

interface and coordinate all payload

44

00:01:44,630 --> 00:01:42,640

activities with mission control in

45

00:01:46,310 --> 00:01:44,640

houston the crew aboard the space

46

00:01:48,149 --> 00:01:46,320

station and the scientists and payload

47

00:01:50,389 --> 00:01:48,159

developers as well as the international

48

00:01:52,389 --> 00:01:50,399

partners across the globe

49

00:01:54,469 --> 00:01:52,399

the day-to-day space station assignments

50

00:01:56,149 --> 00:01:54,479

are guided by the operations controller

51
00:01:57,670 --> 00:01:56,159
we're responsible for the real-time

52
00:02:00,310 --> 00:01:57,680
execution and planning of all

53
00:02:02,069 --> 00:02:00,320
us-controlled payloads aboard the iss

54
00:02:05,190 --> 00:02:02,079
we ensure that these activities are

55
00:02:07,190 --> 00:02:05,200
accomplished on time and safely and help

56
00:02:08,949 --> 00:02:07,200
the crew resolve any issues that they

57
00:02:10,790 --> 00:02:08,959
might have on board

58
00:02:12,790 --> 00:02:10,800
the voice of the operations center as

59
00:02:15,350 --> 00:02:12,800
far as the astronauts are concerned is

60
00:02:17,270 --> 00:02:15,360
the payload communications manager also

61
00:02:19,589 --> 00:02:17,280
known as the pacom we talk to the

62
00:02:22,150 --> 00:02:19,599
astronauts on a daily basis relaying

63
00:02:24,309 --> 00:02:22,160

payload-related communications between

64

00:02:25,830 --> 00:02:24,319

the payload operations center and the

65

00:02:27,350 --> 00:02:25,840

station

66

00:02:29,190 --> 00:02:27,360

it's really neat that we get to know the

67

00:02:30,630 --> 00:02:29,200

crew pretty well during their six-month

68

00:02:32,390 --> 00:02:30,640

shift on station

69

00:02:34,550 --> 00:02:32,400

right behind the window at the console

70

00:02:36,229 --> 00:02:34,560

nearest you is the data management

71

00:02:38,390 --> 00:02:36,239

coordinator helping with all

72

00:02:40,309 --> 00:02:38,400

communications efforts we configured the

73

00:02:42,070 --> 00:02:40,319

onboard video and data systems to make

74

00:02:44,070 --> 00:02:42,080

sure that scientists around the world

75

00:02:46,790 --> 00:02:44,080

receive their downlink science results

76
00:02:48,710 --> 00:02:46,800
and experimental imagery we also handle

77
00:02:50,470 --> 00:02:48,720
video and television operations shipping

78
00:02:52,150 --> 00:02:50,480
scientists and astronauts

79
00:02:53,509 --> 00:02:52,160
needs to discuss something on a project

80
00:02:55,350 --> 00:02:53,519
that they're working on

81
00:02:57,030 --> 00:02:55,360
most experiments on the space station

82
00:02:59,350 --> 00:02:57,040
are installed in different sections

83
00:03:01,030 --> 00:02:59,360
called racks where the astronauts can

84
00:03:03,190 --> 00:03:01,040
work with them and store them in an

85
00:03:05,270 --> 00:03:03,200
efficient manner here in the payload

86
00:03:06,949 --> 00:03:05,280
operations center the payload rack

87
00:03:09,589 --> 00:03:06,959
officer is linked by computer to more

88
00:03:11,830 --> 00:03:09,599

than 50 experiments on the space station

89

00:03:13,190 --> 00:03:11,840

as a payload rack officer we monitor and

90

00:03:14,869 --> 00:03:13,200

control the

91

00:03:16,790 --> 00:03:14,879

payload support system things like the

92

00:03:18,949 --> 00:03:16,800

vacuum and nitrogen

93

00:03:21,670 --> 00:03:18,959

electrical thermal support systems that

94

00:03:23,670 --> 00:03:21,680

payloads will need on a day-to-day basis

95

00:03:26,149 --> 00:03:23,680

working on two-week rotations from the

96

00:03:28,149 --> 00:03:26,159

johnson space center in houston the lead

97

00:03:29,990 --> 00:03:28,159

increments scientist representative

98

00:03:31,910 --> 00:03:30,000

liaisons between the station's lead

99

00:03:33,910 --> 00:03:31,920

scientist in houston the payload

100

00:03:35,670 --> 00:03:33,920

operations center in huntsville and the

101
00:03:37,589 --> 00:03:35,680
scientists all around the world who have

102
00:03:39,350 --> 00:03:37,599
experiments in space

103
00:03:41,270 --> 00:03:39,360
i hope to determine which experiments

104
00:03:42,949 --> 00:03:41,280
are giving priority when the issue

105
00:03:44,949 --> 00:03:42,959
arrives and work with payload

106
00:03:46,630 --> 00:03:44,959
operational directors to ensure all

107
00:03:48,630 --> 00:03:46,640
science research on bush station is

108
00:03:50,309 --> 00:03:48,640
complete each week and the scientists

109
00:03:51,990 --> 00:03:50,319
back on earth are satisfied with the

110
00:03:53,589 --> 00:03:52,000
operations and results of their

111
00:03:55,270 --> 00:03:53,599
experiment

112
00:03:57,350 --> 00:03:55,280
the crew of the international space

113
00:03:59,429 --> 00:03:57,360

station performs cutting edge science

114

00:04:01,670 --> 00:03:59,439

experiments around the clock in the

115

00:04:03,990 --> 00:04:01,680

unique environment of space thanks to

116

00:04:05,750 --> 00:04:04,000

the many contributions from the payload

117

00:04:07,429 --> 00:04:05,760

operations center

118

00:04:09,509 --> 00:04:07,439

thanks for visiting nasa's payload

119

00:04:11,509 --> 00:04:09,519

operations center and enjoy the rest of