
NASA
SPACESTATION
LIVE

1
00:00:07,909 --> 00:00:06,309
i'm here at glenn research center in the

2
00:00:10,150 --> 00:00:07,919
telescience support center with kevin

3
00:00:12,070 --> 00:00:10,160
mcpherson he is the manager for the iss

4
00:00:14,230 --> 00:00:12,080
payloads here at glenn for the space

5
00:00:15,509 --> 00:00:14,240
station and kevin first of all tell us

6
00:00:17,510 --> 00:00:15,519
where we are and what happens here in

7
00:00:18,310 --> 00:00:17,520
the telescience center yeah this is the

8
00:00:20,630 --> 00:00:18,320
uh

9
00:00:22,550 --> 00:00:20,640
we call the nasa glenn iss payload

10
00:00:24,550 --> 00:00:22,560
operations center or the telescience

11
00:00:26,630 --> 00:00:24,560
support center for short

12
00:00:29,509 --> 00:00:26,640
what we do here and have done here since

13
00:00:31,990 --> 00:00:29,519

really the mid 1990s is support

14
00:00:33,830 --> 00:00:32,000
remote science investigations initially

15
00:00:35,510 --> 00:00:33,840
on the space shuttle

16
00:00:37,910 --> 00:00:35,520
when they had dedicated microgravity

17
00:00:39,190 --> 00:00:37,920
space shuttle missions for two weeks 16

18
00:00:40,470 --> 00:00:39,200
days at a time

19
00:00:42,549 --> 00:00:40,480
and then after

20
00:00:44,630 --> 00:00:42,559
they stopped having those those

21
00:00:46,229 --> 00:00:44,640
dedicated missions and started

22
00:00:47,990 --> 00:00:46,239
transitioning into plans for space

23
00:00:50,630 --> 00:00:48,000
station then we picked up with space

24
00:00:51,750 --> 00:00:50,640
station operations and starting in 2001

25
00:00:53,430 --> 00:00:51,760
so we've had

26
00:00:55,029 --> 00:00:53,440
equipment running here experiments

27
00:00:56,790 --> 00:00:55,039
running here since

28
00:00:58,709 --> 00:00:56,800
the arrival of the u.s lab on the space

29
00:01:01,430 --> 00:00:58,719
station all the way back in april of

30
00:01:02,950 --> 00:01:01,440
2001. so the glenn payloads that are on

31
00:01:04,789 --> 00:01:02,960
station they each have little work

32
00:01:07,270 --> 00:01:04,799
stations here right where are we we're

33
00:01:08,710 --> 00:01:07,280
in one right now we are in the the the

34
00:01:11,350 --> 00:01:08,720
flight operations area for the

35
00:01:14,310 --> 00:01:11,360
combustion integrated rack that's one of

36
00:01:16,870 --> 00:01:14,320
two facility class racks that the that

37
00:01:18,230 --> 00:01:16,880
the center has uh has built and flown to

38
00:01:20,230 --> 00:01:18,240

the space station the other one being

39
00:01:22,390 --> 00:01:20,240
the fluids integrated rack

40
00:01:26,149 --> 00:01:22,400
nasa glenn has responsibility

41
00:01:27,990 --> 00:01:26,159
agency-wide for research in microgravity

42
00:01:30,069 --> 00:01:28,000
combustion and microgravity fluid

43
00:01:31,590 --> 00:01:30,079
physics

44
00:01:33,830 --> 00:01:31,600
and what these racks do is they provide

45
00:01:36,789 --> 00:01:33,840
a generic capability for conducting

46
00:01:38,870 --> 00:01:36,799
experiments in combustion or in

47
00:01:40,469 --> 00:01:38,880
in fluids investigations

48
00:01:42,069 --> 00:01:40,479
they provide a generic capability and

49
00:01:44,630 --> 00:01:42,079
then there's specific hardware that goes

50
00:01:47,030 --> 00:01:44,640
into the racks that helps control uh

51
00:01:48,710 --> 00:01:47,040
what the specific experiment is uh is

52
00:01:50,469 --> 00:01:48,720
trying to accomplish other than those

53
00:01:52,469 --> 00:01:50,479
earth observations those are some of the

54
00:01:54,069 --> 00:01:52,479
coolest pictures and videos that we get

55
00:01:56,630 --> 00:01:54,079
from space station the combustion the

56
00:01:58,310 --> 00:01:56,640
fires the fluids yeah it's it's very

57
00:02:00,069 --> 00:01:58,320
interesting that they're you know these

58
00:02:02,069 --> 00:02:00,079
you look on a on a screen and it looks

59
00:02:03,910 --> 00:02:02,079
like it's a you know the size of a of a

60
00:02:05,350 --> 00:02:03,920
beach ball some of these uh combustion

61
00:02:05,990 --> 00:02:05,360
events but what they're actually doing

62
00:02:10,949 --> 00:02:06,000
is

63
00:02:12,630 --> 00:02:10,959

millimeter uh size droplets of fuel uh

64
00:02:14,229 --> 00:02:12,640
and again the generic capability that

65
00:02:16,150 --> 00:02:14,239
the rack provides provides a way to

66
00:02:18,630 --> 00:02:16,160
image that with a variety of cameras to

67
00:02:20,150 --> 00:02:18,640
study different parts of the the flame

68
00:02:21,670 --> 00:02:20,160
phenomena that the scientists are

69
00:02:24,150 --> 00:02:21,680
interested in so they

70
00:02:25,750 --> 00:02:24,160
uh with these these small droplets

71
00:02:28,869 --> 00:02:25,760
burning them they can they can learn a

72
00:02:31,430 --> 00:02:28,879
lot about uh how things burn limits of

73
00:02:33,910 --> 00:02:31,440
of uh combustion things like that

74
00:02:37,190 --> 00:02:33,920
so how does the telescience part of this

75
00:02:38,949 --> 00:02:37,200
work okay so the data comes back to

76
00:02:40,630 --> 00:02:38,959
marshall does it go to several ground

77
00:02:43,670 --> 00:02:40,640
stations it comes straight here no it's

78
00:02:45,509 --> 00:02:43,680
a crazy uh complicated process as you

79
00:02:47,350 --> 00:02:45,519
might expect it goes

80
00:02:49,430 --> 00:02:47,360
from the space station to the tdrs

81
00:02:50,630 --> 00:02:49,440
satellite to white sands to johnson to

82
00:02:52,710 --> 00:02:50,640
marshall

83
00:02:55,110 --> 00:02:52,720
to here we don't do much direct

84
00:02:57,750 --> 00:02:55,120
dissemination out of here to to the pis

85
00:02:59,270 --> 00:02:57,760
other than the processed uh data once it

86
00:03:01,830 --> 00:02:59,280
gets here that's kind of the end point

87
00:03:03,670 --> 00:03:01,840
for for our combustion or our fluids

88
00:03:05,190 --> 00:03:03,680

investigations and that's what we do

89
00:03:07,030 --> 00:03:05,200
there just another place where we're

90
00:03:08,710 --> 00:03:07,040
making science happen just another place

91
00:03:09,509 --> 00:03:08,720
yeah it's it's pretty awesome some of

92
00:03:19,509 --> 00:03:09,519
the

93
00:03:21,030 --> 00:03:19,519
accomplish and when you see a good uh

94
00:03:22,790 --> 00:03:21,040
combustion test point go off that

95
00:03:24,789 --> 00:03:22,800
they're they're really excited because

96
00:03:26,710 --> 00:03:24,799
they they you know they think they can

97
00:03:28,550 --> 00:03:26,720
uh glean some good information out of

98
00:03:30,550 --> 00:03:28,560
out of that uh out of that test points

99
00:03:32,229 --> 00:03:30,560
it's it's good for us to get that

100
00:03:33,910 --> 00:03:32,239
connection to the

101
00:03:35,430 --> 00:03:33,920
to the science folks

102
00:03:36,949 --> 00:03:35,440
all right we look forward to a lot more