



1
00:00:05,910 --> 00:00:03,189
at nasa's kennedy space center in

2
00:00:08,310 --> 00:00:05,920
florida a team assembles components for

3
00:00:09,910 --> 00:00:08,320
one of the backpacks that will be tested

4
00:00:12,789 --> 00:00:09,920
during the desert research and

5
00:00:15,350 --> 00:00:12,799
technology studies or rats project

6
00:00:17,590 --> 00:00:15,360
upcoming field test in arizona

7
00:00:19,910 --> 00:00:17,600
the backpacks are equipped with gps

8
00:00:21,109 --> 00:00:19,920
antennas communication components and

9
00:00:23,429 --> 00:00:21,119
cameras

10
00:00:25,509 --> 00:00:23,439
the desert rats project is a nasa-led

11
00:00:27,830 --> 00:00:25,519
team of research partners working

12
00:00:29,029 --> 00:00:27,840
together to prepare for human robotic

13
00:00:31,349 --> 00:00:29,039

exploration

14

00:00:33,830 --> 00:00:31,359

its purpose is to assess preliminary

15

00:00:37,030 --> 00:00:33,840

exploration operational concepts for

16

00:00:44,389 --> 00:00:37,040

surface operation including rovers eva

17

00:00:51,430 --> 00:00:45,910

so what are we going to do about the 140

18

00:01:04,310 --> 00:00:52,790

okay

19

00:01:04,320 --> 00:01:45,670

so

20

00:01:45,680 --> 00:01:55,590

come on

21

00:01:55,600 --> 00:02:02,789

turn on

22

00:02:11,350 --> 00:02:05,109

all right what about the switch up top

23

00:02:11,360 --> 00:02:19,990

let's turn those off

24

00:02:27,430 --> 00:02:20,830

check

25

00:02:27,440 --> 00:02:36,070

really yeah

26

00:02:36,080 --> 00:02:41,670

that implies our trophos

27

00:02:45,830 --> 00:02:44,070

this backpack is designed to serve as a

28

00:02:47,589 --> 00:02:45,840

lightweight alternative to a full

29

00:02:49,030 --> 00:02:47,599

pressurized suit and

30

00:02:50,390 --> 00:02:49,040

what will happen is the suit subjects

31

00:02:52,229 --> 00:02:50,400

will get off of the rover

32

00:02:53,990 --> 00:02:52,239

put on the backpacks and then they'll be

33

00:02:56,229 --> 00:02:54,000

able to do an hour to

34

00:02:57,910 --> 00:02:56,239

suit run just like having the suit with

35

00:03:00,630 --> 00:02:57,920

all the electronics but without the

36

00:03:03,110 --> 00:03:00,640

weight and the overhead of the

37

00:03:05,350 --> 00:03:03,120

of the pressurized suit desert rats is

38

00:03:07,270 --> 00:03:05,360

simulating what would be a a lunar

39

00:03:09,509 --> 00:03:07,280

traverse so there's a science team that

40

00:03:12,309 --> 00:03:09,519

goes and does we do scouting trips we

41

00:03:13,830 --> 00:03:12,319

look at imagery and we plan

42

00:03:15,670 --> 00:03:13,840

where to go for the best science where

43

00:03:18,149 --> 00:03:15,680

you can have calm and where the mobility

44

00:03:19,990 --> 00:03:18,159

team can send the rover and then all

45

00:03:22,470 --> 00:03:20,000

this goes in an integrated month-long

46

00:03:24,309 --> 00:03:22,480

field test well we only had uh two to

47

00:03:26,550 --> 00:03:24,319

three months here for everything for the

48

00:03:28,470 --> 00:03:26,560

design the building the um

49

00:03:31,190 --> 00:03:28,480

getting the getting the parts everything

50

00:03:34,630 --> 00:03:31,200

procured and having it delivered to jsc

51
00:03:35,830 --> 00:03:34,640
i got as many things started right away

52
00:03:37,910 --> 00:03:35,840
so that

53
00:03:39,830 --> 00:03:37,920
everything would be in in time ordering

54
00:03:41,270 --> 00:03:39,840
was a huge part getting the procurements

55
00:03:47,110 --> 00:03:41,280
in

56
00:03:49,509 --> 00:03:47,120
of myself tex everyone else who worked

57
00:03:50,550 --> 00:03:49,519
on it your prototype shop built the

58
00:03:51,350 --> 00:03:50,560
frame

59
00:03:53,350 --> 00:03:51,360
and

60
00:03:55,270 --> 00:03:53,360
i had some asrc support for other

61
00:03:57,110 --> 00:03:55,280
mechanical things

62
00:03:59,110 --> 00:03:57,120
so just getting all that lined up to

63
00:04:01,429 --> 00:03:59,120

where everything fell into place by our

64

00:04:02,229 --> 00:04:01,439

deadline environment is a big thing out

65

00:04:04,869 --> 00:04:02,239

there

66

00:04:07,270 --> 00:04:04,879

the winds get very high it gets hot it's

67

00:04:09,429 --> 00:04:07,280

just it's a harsh environment we are

68

00:04:11,670 --> 00:04:09,439

pretty much out in the middle of nowhere

69

00:04:13,110 --> 00:04:11,680

the suit subject can dictate a certain

70

00:04:15,190 --> 00:04:13,120

spot if they see a certain rock a

71

00:04:16,949 --> 00:04:15,200

certain geological point of interest

72

00:04:19,590 --> 00:04:16,959

they can hit a button to start a cool

73

00:04:20,390 --> 00:04:19,600

point record it and then later

74

00:04:23,749 --> 00:04:20,400

when

75

00:04:24,550 --> 00:04:23,759

the science team doesn't have to wade

76

00:04:25,590 --> 00:04:24,560

through

77

00:04:27,510 --> 00:04:25,600

you know

78

00:04:28,790 --> 00:04:27,520

several hours of footage to find the one

79

00:04:30,629 --> 00:04:28,800

little piece that they want they just

80

00:04:32,070 --> 00:04:30,639

have all these cool points loaded and

81

00:04:33,270 --> 00:04:32,080

they can go right there and then the

82

00:04:35,350 --> 00:04:33,280

audio is there they don't have to

83

00:04:38,230 --> 00:04:35,360

remember what they saw and it's just a

84

00:04:39,990 --> 00:04:38,240

very good concise way of displaying a

85

00:04:41,670 --> 00:04:40,000

conveying information the main thing we

86

00:04:44,070 --> 00:04:41,680

had to design from scratch was just the

87

00:04:47,189 --> 00:04:44,080

software that runs the voiceover ip

88

00:04:48,790 --> 00:04:47,199

computer that's all custom done in ksc

89

00:04:50,629 --> 00:04:48,800

well in the desert there's there's

90

00:04:53,270 --> 00:04:50,639

nothing there's no infrastructure no

91

00:04:54,070 --> 00:04:53,280

power no nothing so we bring generators

92

00:04:55,510 --> 00:04:54,080

we

93

00:04:57,430 --> 00:04:55,520

bring a network connection down from a

94

00:04:59,510 --> 00:04:57,440

mountain it's mount eldon it's it's

95

00:05:01,830 --> 00:04:59,520

several several miles away i think 30

96

00:05:04,230 --> 00:05:01,840

miles away so we bring network we bring

97

00:05:06,150 --> 00:05:04,240

power we bring you know there's phones

98

00:05:07,430 --> 00:05:06,160

there's everything that you would have

99

00:05:09,110 --> 00:05:07,440

if you were sitting in your office and

100

00:05:11,110 --> 00:05:09,120

it's more about making the test team is

101
00:05:13,990 --> 00:05:11,120
productive the astronauts will be in the

102
00:05:15,590 --> 00:05:14,000
rovers during the test but the um the

103
00:05:16,870 --> 00:05:15,600
support team the mission control the

104
00:05:18,629 --> 00:05:16,880
science team

105
00:05:20,950 --> 00:05:18,639
the entire support team i think there's

106
00:05:23,189 --> 00:05:20,960
over 100 people that are part of this

107
00:05:24,790 --> 00:05:23,199
field test to make sure that they can do

108
00:05:26,150 --> 00:05:24,800
the everything they need to do to get

109
00:05:27,749 --> 00:05:26,160
their job done

110
00:05:30,550 --> 00:05:27,759
in the middle of nowhere we're working

111
00:05:32,150 --> 00:05:30,560
towards what's called a a csa a com

112
00:05:34,390 --> 00:05:32,160
service assembly where there's a

113
00:05:36,390 --> 00:05:34,400

standard box that we design and that can

114

00:05:39,029 --> 00:05:36,400

go in any element the backpacks the

115

00:05:40,790 --> 00:05:39,039

rovers the um

116

00:05:43,029 --> 00:05:40,800

the hdu which is

117

00:05:45,189 --> 00:05:43,039

now called the pem

118

00:05:47,510 --> 00:05:45,199

any any element we could just put this