SPACEX CRS-14

WHAT'S ON BOARD

1
00:00:00,270 --> 00:00:28,109
[Music]

2
00:00:28,110 --> 00:00:30,299
What our company does is we've built the

3
00:00:30,300 --> 00:00:31,859
new technology that we call auto-

4
00:00:31,860 --> 00:00:34,919
bioluminescence and this is basically a

5
00:00:34,920 --> 00:00:37,199
big step forward in bioluminescent

6
00:00:37,200 --> 00:00:39,149
imaging where instead of intermittent

7
00:00:39,150 --> 00:00:42,359
snapshots of data acquisition we can

8
00:00:42,360 --> 00:00:46,079
continuously monitor any living cell so

9
00:00:46,080 --> 00:00:48,539
healthy happy cells glow very brightly.

10
00:00:48,540 --> 00:00:51,869
As the cells become sick they become dim

11
00:00:51,870 --> 00:00:54,359
and if they die the light goes out. Our

12
00:00:54,360 --> 00:00:56,549
hope is that we can provide a way for

13
00:00:56,550 --> 00:00:58,859

these pharmaceutical companies to do

14
00:00:58,860 --> 00:01:01,019
their screening at low cost in low-Earth

15
00:01:01,020 --> 00:01:04,169
orbit and get better information about

16
00:01:04,170 --> 00:01:06,539
the safety and potential functionality

17
00:01:06,540 --> 00:01:08,939
of these new drug compounds. The MVP

18
00:01:08,940 --> 00:01:10,489
locker will stay onboard the station

19
00:01:10,490 --> 00:01:13,648
permanently and then only experiment

20
00:01:13,649 --> 00:01:16,139
modules will be inserted by the crew

21
00:01:16,140 --> 00:01:18,389
over time and today we're so excited

22
00:01:18,390 --> 00:01:21,269
that the first user of our MVP payload

23
00:01:21,270 --> 00:01:24,929
is NASA. What we're planning to do is to

24
00:01:24,930 --> 00:01:27,439
use the fly sort of as a surrogate

25
00:01:27,440 --> 00:01:30,089
because you can get large sample sizes

26
00:01:30,090 --> 00:01:33,389
to test different kinds of pathogens and

27
00:01:33,390 --> 00:01:34,919
their changes as they're happening in

28
00:01:34,920 --> 00:01:37,589
space. So we in fact with the Techshot

29
00:01:37,590 --> 00:01:41,099
team loaded 50 flies for the for this

30
00:01:41,100 --> 00:01:43,259
first chamber. When we get it down in a

31
00:01:43,260 --> 00:01:47,158
month we expect to get at least a

32
00:01:47,159 --> 00:01:51,269
hundred times that. We're launching seven

33
00:01:51,270 --> 00:01:55,228
new ways of growing plants in space. It's

34
00:01:55,229 --> 00:01:58,879
essentially using a plant cylinder

35
00:01:58,880 --> 00:02:01,229
within a reservoir

36
00:02:01,230 --> 00:02:03,659
it uses capillary action to bring the

37
00:02:03,660 --> 00:02:06,119
liquid up into the plant reservoir where

38
00:02:06,120 --> 00:02:08,189

there's a substrate and slow-release

39
00:02:08,190 --> 00:02:11,129
fertilizer pellets. The seeds are up here.

40
00:02:11,130 --> 00:02:14,249
They germinate, they grow within the

41
00:02:14,250 --> 00:02:17,099
Veggie unit and it's replacing the

42
00:02:17,100 --> 00:02:19,289
current baseline nutrient delivery

43
00:02:19,290 --> 00:02:22,469
system. ASIM is a payload that's

44
00:02:22,470 --> 00:02:25,289
developed by the European Space Agency

45
00:02:25,290 --> 00:02:28,229
to study severe thunderstorms.

46
00:02:28,230 --> 00:02:30,209
Particularly what we are interested in is

47
00:02:30,210 --> 00:02:32,569
gigantic lightning shooting up from

48
00:02:32,570 --> 00:02:35,669
thunderstorm clouds up to to the edge of

49
00:02:35,670 --> 00:02:37,709
space. The things that we are looking for

50
00:02:37,710 --> 00:02:41,309
are really new, relatively newly discovered

51
00:02:41,310 --> 00:02:44,159
so this will be the first time that we

52
00:02:44,160 --> 00:02:46,679
launch a specially designed instrument

53
00:02:46,680 --> 00:02:49,289
to to look for these things in space.

54
00:02:49,290 --> 00:02:58,169
[Music]