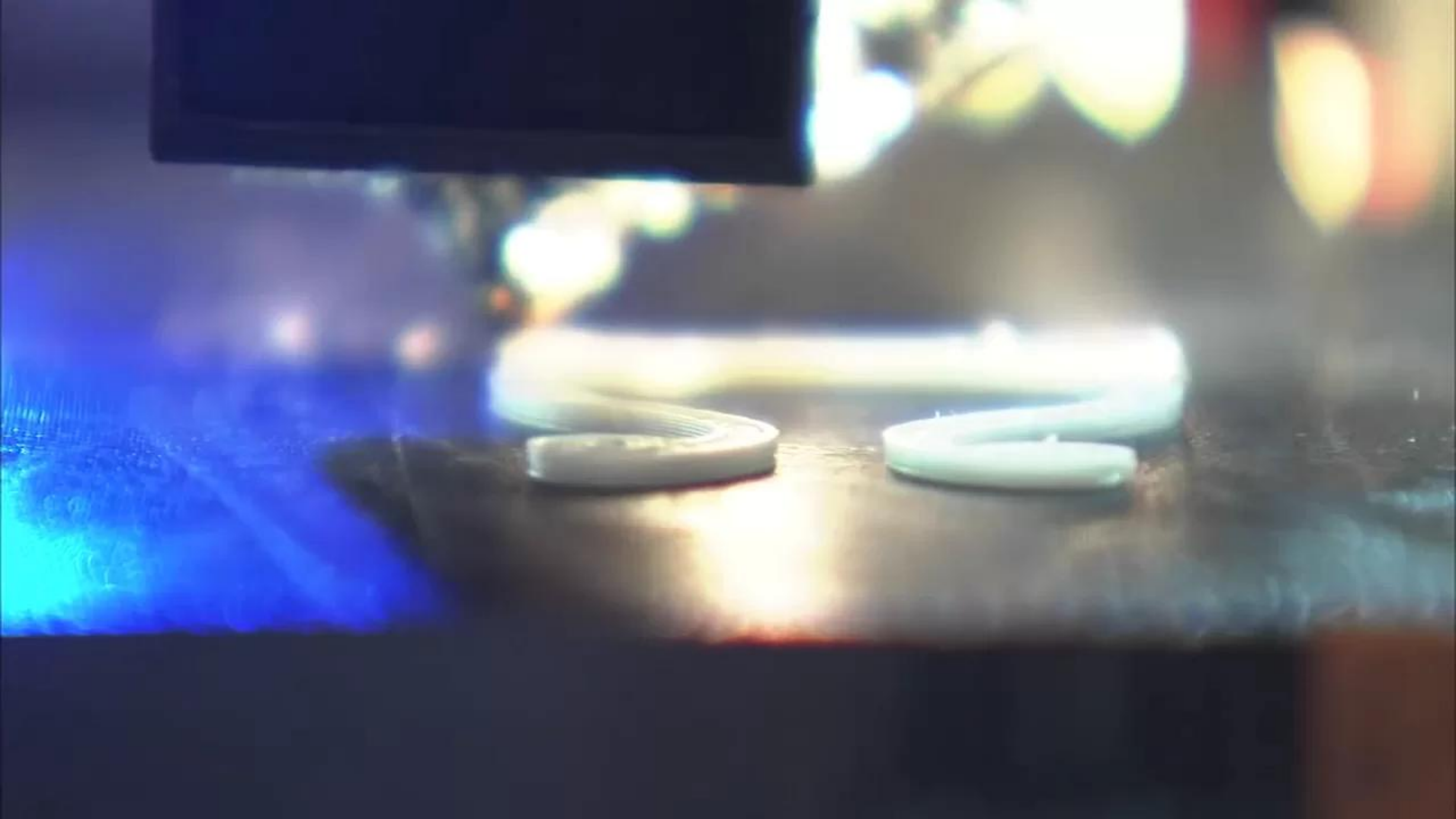

1
00:00:00,000 --> 00:00:00,762
(Music)

2
00:00:00,797 --> 00:00:02,610
[TJ Creamer] 3D printing provides

3
00:00:02,645 --> 00:00:05,178
us the ability to be able to do our

4
00:00:05,213 --> 00:00:08,081
own Star Trek replication right there

5
00:00:08,116 --> 00:00:10,961
on the spot to help us replace things

6
00:00:10,996 --> 00:00:13,817
we've lost, replace things we've

7
00:00:13,852 --> 00:00:15,865
broken or maybe make things we've

8
00:00:15,900 --> 00:00:17,778
thought of that can be useful.

9
00:00:17,813 --> 00:00:20,042
Let me give you an example … There

10
00:00:20,077 --> 00:00:22,761
are a lot of hex head 5/37 inch

11
00:00:22,796 --> 00:00:27,321
needs on orbit and we can replicate

12
00:00:27,356 --> 00:00:29,729
these tools for us and we carry

13
00:00:29,764 --> 00:00:31,433

them around with us. You can carry

14
00:00:31,468 --> 00:00:33,514
them around. You can end up with seat

15
00:00:33,549 --> 00:00:35,755
track on airplanes are the same kind

16
00:00:35,790 --> 00:00:38,665
of seat track we use on orbit between

17
00:00:38,700 --> 00:00:40,785
racks and we put little feet in there

18
00:00:40,820 --> 00:00:42,498
to anchor things down. These little

19
00:00:42,533 --> 00:00:45,209
feet you can end up losing quite a bit.

20
00:00:45,244 --> 00:00:48,377
The ability to not have to manifest

21
00:00:48,412 --> 00:00:51,281
mass and launch it to resupply

22
00:00:51,316 --> 00:00:54,233
ourselves is most convenient.

23
00:00:54,268 --> 00:00:55,897
[Niki Werkheiser] 3D printing in

24
00:00:55,932 --> 00:00:57,977
Zero-G will be ready to launch in early

25
00:00:58,012 --> 00:01:00,321
June of 2014. Currently we’re slated

26
00:01:00,356 --> 00:01:02,144
for SpaceX 5.

27
00:01:02,179 --> 00:01:04,705
The goal of 3D printing is that we want

28
00:01:04,740 --> 00:01:06,738
to take this to microgravity and for use

29
00:01:06,773 --> 00:01:08,537
on the International Space Station.

30
00:01:08,572 --> 00:01:10,546
As you might imagine, on space station

31
00:01:10,581 --> 00:01:12,345
whatever they have available on orbit

32
00:01:12,380 --> 00:01:14,362
is what they have to use. And just like

33
00:01:14,397 --> 00:01:15,936
on the ground you have parts that break

34
00:01:15,971 --> 00:01:17,760
or get lost. When that happens, we do

35
00:01:17,795 --> 00:01:20,120
have to wait for replacement parts, or

36
00:01:20,155 --> 00:01:22,185
we have to use multiple spares that have

37
00:01:22,220 --> 00:01:25,321
to be launched which does require extra mass.

38
00:01:25,356 --> 00:01:27,546

The idea here is that we will, on demand,

39
00:01:27,581 --> 00:01:29,433
be able to print replacement or spare

40
00:01:29,468 --> 00:01:31,752
parts as needed. We can have the prints

41
00:01:31,787 --> 00:01:33,809
preloaded onto the printer or we can

42
00:01:33,844 --> 00:01:35,905
upload directly from the ground. So

43
00:01:35,940 --> 00:01:38,865
we'll have an on demand 3D printing

44
00:01:38,900 --> 00:01:40,593
capability on station.

45
00:01:40,628 --> 00:01:42,306
[Jason Dunn] We've actually been doing

46
00:01:42,341 --> 00:01:44,834
a lot of testing on the 3D printer right

47
00:01:44,869 --> 00:01:47,152
now. The most recent set of tests we did,

48
00:01:47,187 --> 00:01:49,560
through the flight opportunities program,

49
00:01:49,595 --> 00:01:51,848
another contract we have with NASA where

50
00:01:51,883 --> 00:01:53,961
we flew the printer on zero gravity

51
00:01:53,996 --> 00:01:55,873
parabolic flights just a few weeks ago

52
00:01:55,908 --> 00:01:58,089
where we actually verified that the

53
00:01:58,124 --> 00:02:00,209
design of our printer works in

54
00:02:00,244 --> 00:02:04,177
microgravity which was a huge step to

55
00:02:04,212 --> 00:02:05,952
getting to the space station.

56
00:02:05,987 --> 00:02:07,777
[Niki Werkheiser] Made In Space is

57
00:02:07,812 --> 00:02:09,785
responsible for designing the hardware

58
00:02:09,820 --> 00:02:11,793
that NASA is helping to provide insight