



1
00:00:00,766 --> 00:00:09,208
[Music]

2
00:00:09,208 --> 00:00:12,411
>> We explore to gain knowledge,
to push the boundaries

3
00:00:12,411 --> 00:00:15,548
of possibility, and
to reveal the unknown.

4
00:00:15,548 --> 00:00:18,350
>> We seek to discover,
to find answers here

5
00:00:18,350 --> 00:00:20,686
on earth and in space.

6
00:00:20,686 --> 00:00:22,555
>> Was Mars once an
earth-like planet,

7
00:00:22,555 --> 00:00:24,423
with water in an atmosphere?

8
00:00:24,423 --> 00:00:26,459
What happened?

9
00:00:26,459 --> 00:00:28,794
Can the same thing
happen here on earth?

10
00:00:28,794 --> 00:00:30,329
>> What about asteroids?

11
00:00:30,329 --> 00:00:32,865
Is there something we can
do to prevent a big one

12

00:00:32,865 --> 00:00:35,201
from colliding with earth?

13

00:00:35,201 --> 00:00:37,603
>> We can go to Mars in our
lifetime, and answer some

14

00:00:37,603 --> 00:00:39,371
of humanities fundamental
questions

15

00:00:39,371 --> 00:00:41,807
about life beyond earth.

16

00:00:41,807 --> 00:00:44,910
>> Robots are doing great work
exploring our solar system,

17

00:00:44,910 --> 00:00:46,545
but eventually, we
want to be able

18

00:00:46,545 --> 00:00:48,481
to put a person on the ground.

19

00:00:48,481 --> 00:00:54,920
[Radio Transmission]

20

00:00:54,920 --> 00:00:59,225
>> Now sending people to deep
space destination requires a lot

21

00:00:59,225 --> 00:01:02,761
of stuff, including
water, shelter, fuel,

22

00:01:02,761 --> 00:01:05,231
spare parts, tools,
and supplies.

23

00:01:05,231 --> 00:01:07,800

It's like a space-faring RV.

24

00:01:07,800 --> 00:01:09,802

The farther you go and
the longer the trip,

25

00:01:09,802 --> 00:01:14,607

the more you need, and that
means moving a lot of mass.

26

00:01:14,607 --> 00:01:15,908

>> So when you talk

27

00:01:15,908 --> 00:01:17,576

about getting past the
full earth's gravity,

28

00:01:17,576 --> 00:01:20,513

you need a bigger,
more powerful rocket.

29

00:01:20,513 --> 00:01:28,721

[Music]

30

00:01:28,721 --> 00:01:32,158

>> The space launch system is
an all-new, heavy lift rocket

31

00:01:32,158 --> 00:01:35,561

that uses a combination of
proven hardware and technology

32

00:01:35,561 --> 00:01:38,564

to make it more affordable.

33

00:01:38,564 --> 00:01:40,599

We could take the best

and all we've learned

34

00:01:40,599 --> 00:01:41,934
from building rockets,

35

00:01:41,934 --> 00:01:43,802
and combine that with
cutting-edge tooling

36

00:01:43,802 --> 00:01:45,871
and manufacturing technology

37

00:01:45,871 --> 00:01:49,275
to build the most
powerful rocket in history.

38

00:01:51,977 --> 00:01:54,380
>> You can fly to really
high orbits around the moon

39

00:01:54,380 --> 00:01:57,583
with this rocket, without
requiring any other assistance.

40

00:01:57,583 --> 00:01:59,351
But when we add an upper stage,

41

00:01:59,351 --> 00:02:01,654
we'll have an even
bigger capacity.

42

00:02:04,290 --> 00:02:07,693
>> The larger evolved version
of SLS can carry a habitat,

43

00:02:07,693 --> 00:02:10,863
larger solar arrays, additional
propulsion, you name it,

44

00:02:10,863 --> 00:02:13,566
it's really a versatile rocket.

45

00:02:13,566 --> 00:02:17,970
[Rocket Sounds]

46

00:02:17,970 --> 00:02:26,879
[Music]

47

00:02:26,879 --> 00:02:29,415
>> To get the astronauts
to be on low-earth orbit,

48

00:02:29,415 --> 00:02:32,451
we need a new crew
vehicle, Orion.

49

00:02:32,451 --> 00:02:35,955
>> The Orion spacecraft is a
conical shape, like Apollo was,

50

00:02:35,955 --> 00:02:39,491
but it's actually larger
than Apollo, and it's capable

51

00:02:39,491 --> 00:02:43,229
of taking people farther
into space than ever before.

52

00:02:43,229 --> 00:02:46,665
It can protect a crew of
four for up to 21 days,

53

00:02:46,665 --> 00:02:49,868
and carry food, air,
water, supplies,

54

00:02:49,868 --> 00:02:52,705
all the things the
crew will need.

55

00:02:52,705 --> 00:02:54,039
>> Orion is the most advanced

56

00:02:54,039 --> 00:02:56,308
and versatile spacecraft
ever made.

57

00:02:56,308 --> 00:02:58,844
It uses state of the art
technology, materials,

58

00:02:58,844 --> 00:03:02,548
and design processes based on
more than 50 years of research

59

00:03:02,548 --> 00:03:03,849
and technology development.

60

00:03:03,849 --> 00:03:05,351
>> [Radio] Flight crew,

61

00:03:05,351 --> 00:03:06,919
close and lock your
visors, initiate O2 flow.

62

00:03:06,919 --> 00:03:08,621
>> The first crewed
flight of Orion

63

00:03:08,621 --> 00:03:11,056
and the Space Launch
System will be a flight

64

00:03:11,056 --> 00:03:14,360
around the moon during
Exploration Mission 2.

65

00:03:14,360 --> 00:03:17,863

A crew of astronauts will launch
on SLS, fly several orbits

66

00:03:17,863 --> 00:03:20,699

around the earth, then
perform a translunar injection,

67

00:03:20,699 --> 00:03:21,834

which will send them on a path

68

00:03:21,834 --> 00:03:24,637

from earth orbit
towards the moon.

69

00:03:24,637 --> 00:03:29,842

[Music]

70

00:03:29,842 --> 00:03:32,077

>> Once the crew gets near
the moon, Orion will pass

71

00:03:32,077 --> 00:03:35,681

within 60 miles of the surface,
and from there, Orion can enter

72

00:03:35,681 --> 00:03:39,652

into a high lunar orbit, several
thousand miles from the surface.

73

00:03:39,652 --> 00:03:48,694

[Music]

74

00:03:51,497 --> 00:03:53,732

>> The tools, the knowledge,
and the experience that we have

75

00:03:53,732 --> 00:03:56,302

at our disposal today
come from nearly 50 years

76

00:03:56,302 --> 00:03:57,569

of space exploration,

77

00:03:57,569 --> 00:04:00,706

and ultimately benefit
lives here on earth.

78

00:04:02,408 --> 00:04:04,743

>> Who knows what will come out
of the scientific knowledge,

79

00:04:04,743 --> 00:04:07,913

discovery, and economic
opportunities that result

80

00:04:07,913 --> 00:04:10,482

from deep space exploration!

81

00:04:10,482 --> 00:04:11,917

>> We've just hit the
tip of the iceberg

82

00:04:11,917 --> 00:04:14,353

in terms of human exploration.

83

00:04:14,353 --> 00:04:16,322

Now we need to explore
deep space.

84

00:04:16,322 --> 00:04:17,756

To me, that's the goal,

85

00:04:17,756 --> 00:04:21,694

to expand humanities
presence beyond the earth.

86

00:04:21,694 --> 00:04:24,463

>> Exploring beyond
has a deeper purpose,

87

00:04:24,463 --> 00:04:28,600

and it is a bolder mission than
anything we've ever done before.

88

00:04:28,600 --> 00:04:30,736

>> I believe that
people still look to NASA

89

00:04:30,736 --> 00:04:33,038

and the United States
for leadership in space.

90

00:04:33,038 --> 00:04:37,042

It takes courage and
resolve and commitment,

91

00:04:37,042 --> 00:04:39,645

and when we leave earth to
explore our solar system,

92

00:04:39,645 --> 00:04:42,948

it will not be as any one nation
or culture, but as citizens