
NASA

1
00:00:00,210 --> 00:00:03,750
It's taking longer than we thought to
build this amazing telescope, partly

2
00:00:03,750 --> 00:00:08,460
because we never built one before like
it. It is enormous -- the sunshade that we

3
00:00:08,460 --> 00:00:12,090
have to build is as big as a tennis
court. It has to be folded up really

4
00:00:12,090 --> 00:00:15,450
small so it when we get it up there, it
can unfold properly in outer space.

5
00:00:15,450 --> 00:00:19,470
We have to rehearse and practice and we
have to find those little mistakes that

6
00:00:19,470 --> 00:00:24,220
people always make and fix them, so it's
difficult but it's worth it.

7
00:00:27,060 --> 00:00:33,420
These recommendations are all designed to create mission success, to enhance the

8
00:00:33,420 --> 00:00:37,580
likelihood of mission success, and
therefore we're accepting all recommendations.

9
00:00:39,060 --> 00:00:41,670
We're going through it
and taking every one of these

10
00:00:41,670 --> 00:00:45,690
recommendations or in above what we were already were going to do and

11
00:00:45,690 --> 00:00:50,720

implementing them to the best of our
ability. What we're going to do now is

12
00:00:50,720 --> 00:00:56,520
push through that integration and test.
We're going to shake it, blast sound at

13
00:00:56,520 --> 00:01:02,480
it, heat it, cool it, and make sure that
everything is working exactly like it should.

14
00:01:04,320 --> 00:01:08,480
This is the hardest time of the
development of any spacecraft, but also

15
00:01:08,490 --> 00:01:11,729
it's the time that gives you the certainty that at the

16
00:01:11,729 --> 00:01:17,189
end, this mission will be successful once
deployed in orbit.

17
00:01:17,189 --> 00:01:20,560
We do risky things because it's the only way to get at the answers that we're after.

18
00:01:20,560 --> 00:01:25,140
You can't say, 'I don't really want to know,' because we do really want to know, but the only way to

19
00:01:25,140 --> 00:01:28,310
get at the answer is to build this kind
of equipment.

20
00:01:29,380 --> 00:01:33,440
So Webb constitutes a big leap in
astrophysics. It really is the

21
00:01:33,450 --> 00:01:38,729
next-generation telescope, a telescope
we've never seen, an observatory that

22
00:01:38,729 --> 00:01:45,620
nobody has imagined before Webb, and
whenever we do that it's difficult.

23
00:01:45,620 --> 00:01:50,960
In order to discover the things that we
have never seen before ,we need the best

24
00:01:50,970 --> 00:01:55,320
equipment we can possibly have,
so the telescope that we're building has

25
00:01:55,320 --> 00:01:58,829
no substitute. There's no other way to
get that this scientific discoveries that

26
00:01:58,829 --> 00:02:03,299
it'll make. What it'll really find that
we don't know? Well, I don't know ... it's a mystery.

27
00:02:03,900 --> 00:02:07,580
So we build these telescopes
with great confidence that we will open

28
00:02:07,590 --> 00:02:11,279
up new mysteries of the universe
whenever we build them. It's happened

29
00:02:11,279 --> 00:02:14,959
time after time after time for centuries.

30
00:02:14,959 --> 00:02:19,700
We are looking for our entire history ...
how did we get here from whatever it was

31
00:02:19,700 --> 00:02:23,360
that came before. So we know about the
expanding universe, which we call the Big

32

00:02:23,360 --> 00:02:28,220
Bang. It was very hot, very compressed,
somehow that turned into us.

33
00:02:28,220 --> 00:02:30,380
How did that happen?

34
00:02:30,880 --> 00:02:32,060
We know the stars and galaxies formed

35
00:02:32,060 --> 00:02:36,739
somehow billions of years ago, we know
that they're still being born today not

36
00:02:36,739 --> 00:02:41,989
too far away. We'd like to know how
planets become habitable. How do they

37
00:02:41,989 --> 00:02:44,870
come out to be just the right size and
temperature to have just the right

38
00:02:44,870 --> 00:02:48,139
amount of water and oceans and
continents so that could they could be

39
00:02:48,139 --> 00:02:52,940
like Earth? All of these things are huge
questions for humanity, and I think

40
00:02:52,940 --> 00:02:55,940
everybody wants to know where did we
come from. And I especially do because

41
00:02:55,940 --> 00:03:00,760
it's like the most difficult and
interesting challenge in science.

42
00:03:00,760 --> 00:03:06,640
Webb is all about making history. I t's about United States leadership in astrophysics

43
00:03:06,640 --> 00:03:14,480
in the next decades, and it is therefore
very difficult. If making history was