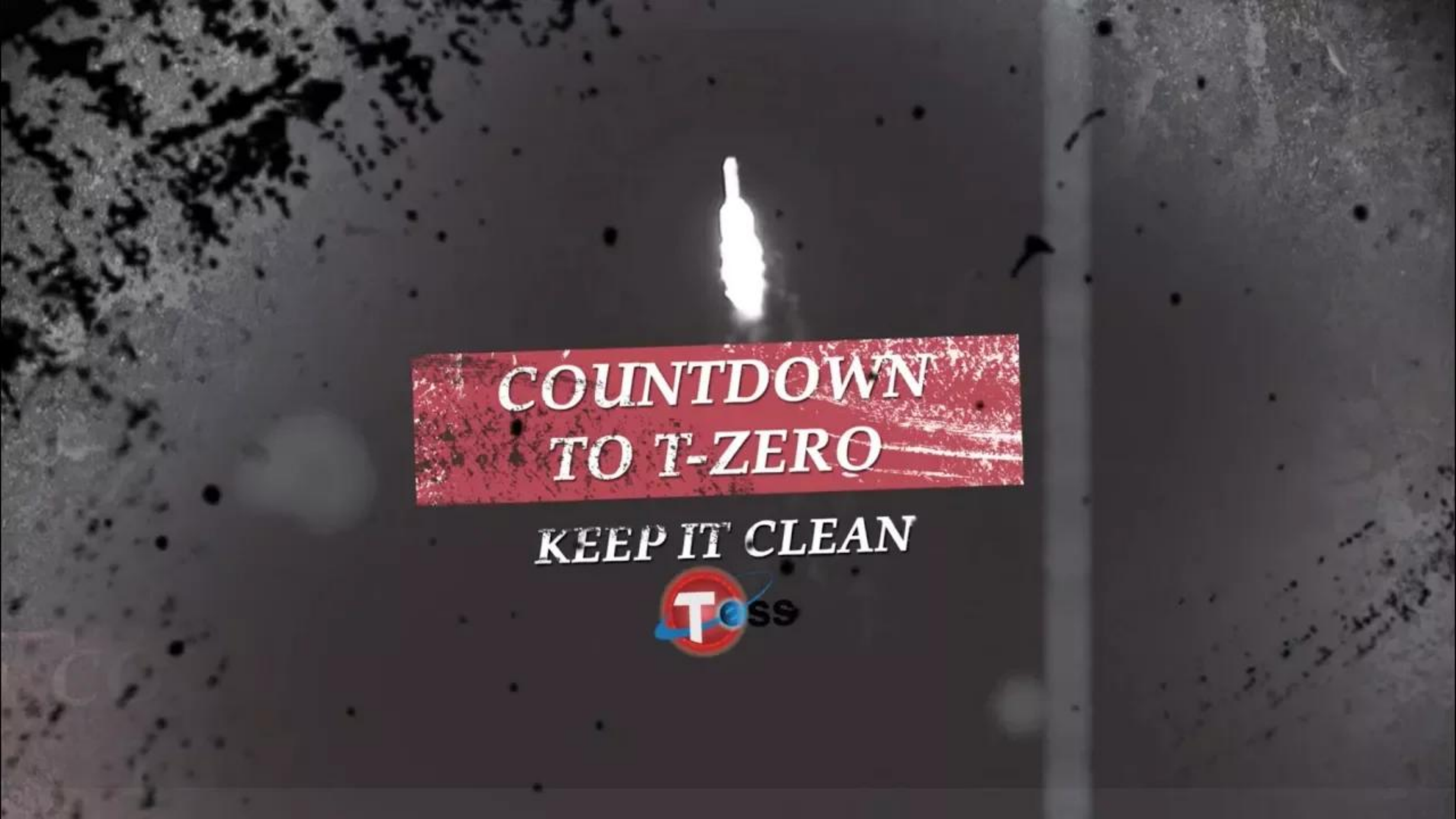
COUNTDOWN
TO T-ZERO
KEEP IT CLEAN
Tess

1
00:00:00,299 --> 00:00:01,639
Range Coordinator: "Roc Report Range Status..."

2
00:00:01,639 --> 00:00:03,460
ROC: "Range Green."

3
00:00:03,460 --> 00:00:04,700
"T-Minus
5,

4
00:00:04,700 --> 00:00:06,780
4,
3,

5
00:00:06,780 --> 00:00:08,860
2,
1,

6
00:00:08,860 --> 00:00:13,840
Go for main engine start, zero and liftoff!"

7
00:00:17,180 --> 00:00:19,439
These are not the best of conditions.

8
00:00:19,439 --> 00:00:24,859
But for these 'knights of the highways,' hauling
a multimillion dollar spacecraft more than

9
00:00:24,859 --> 00:00:26,980
800 miles is all in a day’s work.

10
00:00:26,980 --> 00:00:32,759
"We just don't think about the cost of what's
back there, you just want to make sure it's

11
00:00:32,759 --> 00:00:37,990
safe and doesn't get destroyed - you don't
get destroyed - and you know, everybody's

12
00:00:37,990 --> 00:00:39,340
safe at the end of the day."

13
00:00:39,340 --> 00:00:42,429
TESS stands for Transiting Exoplanet Survey
Satellite.

14
00:00:42,429 --> 00:00:46,450
It’s designed to spend two years searching
for exoplanets.

15
00:00:46,450 --> 00:00:52,230
The 16-hour road trip from Virginia to Florida
wasn’t easy, and protecting this one-of-a-kind

16
00:00:52,230 --> 00:00:53,859
spacecraft during its move was vital.

17
00:00:53,859 --> 00:00:56,269
"The case gets used for a number of missions.

18
00:00:56,269 --> 00:01:00,390
It's mounted on some shock absorbing bumpers
so that we don't see a lot of the road noise

19
00:01:00,390 --> 00:01:02,450
getting into the spacecraft while we transit.

20
00:01:02,450 --> 00:01:03,609
We don't want any humidity inside.

21
00:01:03,609 --> 00:01:07,160
We don't want the temperature to change, so
we have an air conditioning system as well.

22
00:01:07,160 --> 00:01:12,040
So, we're just trying to keep it environmentally
stable on the trip, and then we have very

23
00:01:12,040 --> 00:01:16,750
sensitive science instruments, so we actually
provide a nitrogen purge, we spray nitrogen

24
00:01:16,750 --> 00:01:21,930
gas in, to make sure that no air gets in contact
with some of the sensitive components."

25
00:01:21,930 --> 00:01:26,130
Even though TESS has safely made it to NASA’s
Kennedy Space Center, the job of keeping it

26
00:01:26,130 --> 00:01:27,590
clean is far from over.

27
00:01:27,590 --> 00:01:32,500
"TESS has really strict contamination control
requirements, so what we've done is created

28
00:01:32,500 --> 00:01:37,090
a clean enclosure inside the high bay that
acts like a clean room within a clean room

29
00:01:37,090 --> 00:01:38,090
basically."

30
00:01:38,090 --> 00:01:42,250
This is a unique mission full of first-time
events that are sure to be a challenge.

31
00:01:42,250 --> 00:01:44,030
"TESS isn't like another mission.

32
00:01:44,030 --> 00:01:45,030
We haven't done another TESS.

33
00:01:45,030 --> 00:01:46,910
This is the first of its kind."

34
00:01:46,910 --> 00:01:51,050
The time has come for this diverse team to
put years of planning into practice as they

35
00:01:51,050 --> 00:01:52,280
begin the countdown to T-Zero.

36
00:01:53,400 --> 00:01:56,920
"We've had a period of hard work that lasted
for years, and when you finally get to the

37
00:01:56,930 --> 00:01:58,730
point of launch it's very exciting.

38
00:01:58,730 --> 00:02:03,280
This is where the fun begins after we've gotten through all the early legwork and planning

39
00:02:03,280 --> 00:02:08,470
that we are actually going to now prepare
a spacecraft for launch, and this will be

40
00:02:08,470 --> 00:02:13,250
the first launch from the east coast on a
Falcon 9 for a NASA mission."

41
00:02:13,250 --> 00:02:17,480
Building on the groundbreaking discoveries
of the Kepler Project, TESS has scientists

42
00:02:17,480 --> 00:02:20,230
across the world excited about its possibilities.

43
00:02:20,230 --> 00:02:24,850
"TESS is probably one of the most interesting
spacecrafts that I've ever worked on in my

44
00:02:24,850 --> 00:02:28,110
career, because of the science it's bringing
back down to Earth.

45
00:02:28,110 --> 00:02:31,250
It's taking science fiction to science fact."

46
00:02:31,250 --> 00:02:38,560
"What TESS is going to do is look around the
entire sky around us to find stars nearby,

47
00:02:38,560 --> 00:02:41,340
much closer, 10 times closer then Kepler."

48
00:02:41,340 --> 00:02:48,460
"The really exciting part about this is it's
the first all-sky survey of this type using

49
00:02:48,460 --> 00:02:53,030
the transiting method to look for Earth-sized
and super-Earth planets."

50
00:02:56,100 --> 00:03:01,580
"I think the real interest by the public in
exoplanets is that everyone has a dream that

51
00:03:01,580 --> 00:03:07,800
there is an Earth analog out there, another
planet that has the ability to have an atmosphere

52
00:03:07,860 --> 00:03:10,860
and water - and sustain life on it.

53
00:03:10,880 --> 00:03:15,500
That of course, is the ultimate sort of goal of exoplanet
science."