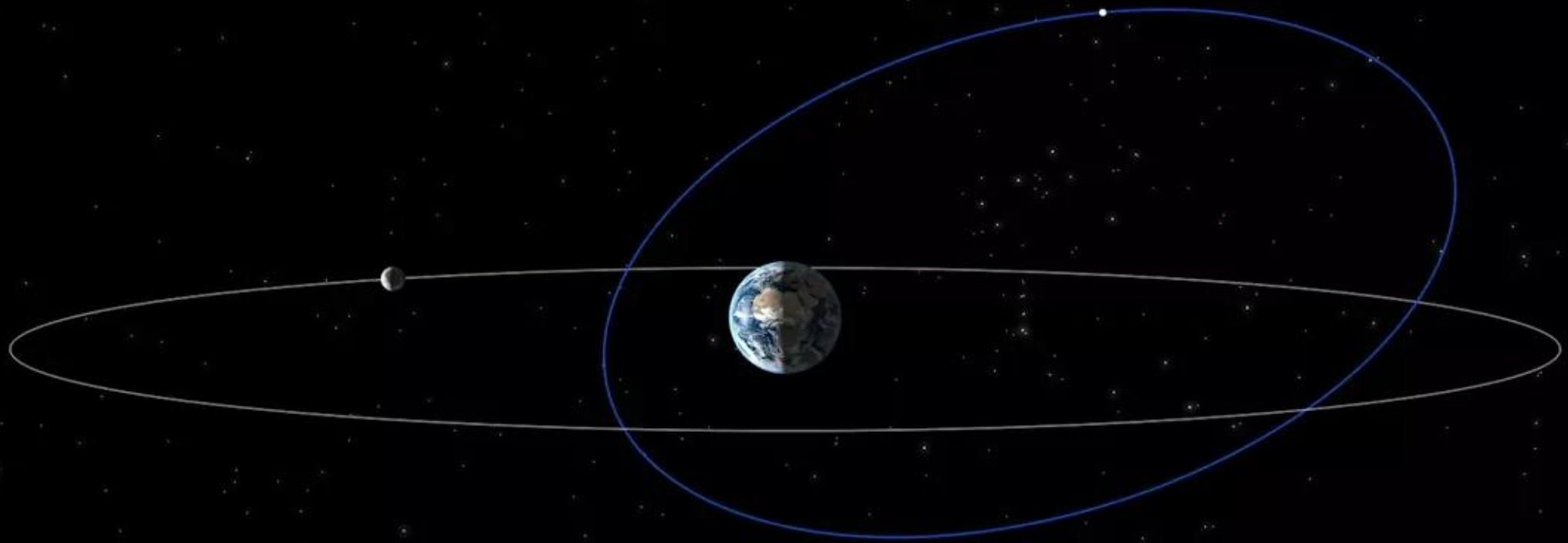

1
00:00:00,020 --> 00:00:04,060
TESS, the Transiting Exoplanet Survey Satellite,

2
00:00:04,080 --> 00:00:08,160
is NASA's newest exoplanet mission.

3
00:00:08,180 --> 00:00:12,290
Led by MIT, TESS will find thousands of

4
00:00:12,310 --> 00:00:16,350
new planets orbiting nearby stars.

5
00:00:16,370 --> 00:00:20,420
To accomplish this, TESS will fly in a special,

6
00:00:20,440 --> 00:00:24,520
highly elliptical orbit that maximizes the amount of sky the spacecraft

7
00:00:24,540 --> 00:00:28,630
can image. Once TESS has launched, it will expand its orbit

8
00:00:28,650 --> 00:00:32,770
until it can get a gravitational assist from the Moon.

9
00:00:32,790 --> 00:00:36,820
This "slingshot" will move it into a stable orbit that is tipped

10
00:00:36,840 --> 00:00:40,860
at about 40 degrees from the Moon's orbital plane.

11
00:00:40,880 --> 00:00:44,910
TESS orbits Earth in exactly half the time it takes the Moon

12
00:00:44,930 --> 00:00:48,970
to orbit once. This feature helps stabilize

13
00:00:48,990 --> 00:00:53,070

the spacecraft's orbit against tugs from the Moon's gravity.

14
00:00:53,090 --> 00:00:57,230
TESS will spend most of its

15
00:00:57,250 --> 00:01:01,380
13.7-day orbit observing the sky. As it approaches

16
00:01:01,400 --> 00:01:05,490
Earth, TESS will rotate, and transmit all its accumulated data

17
00:01:05,510 --> 00:01:09,680
to scientists on the ground. Over two years,