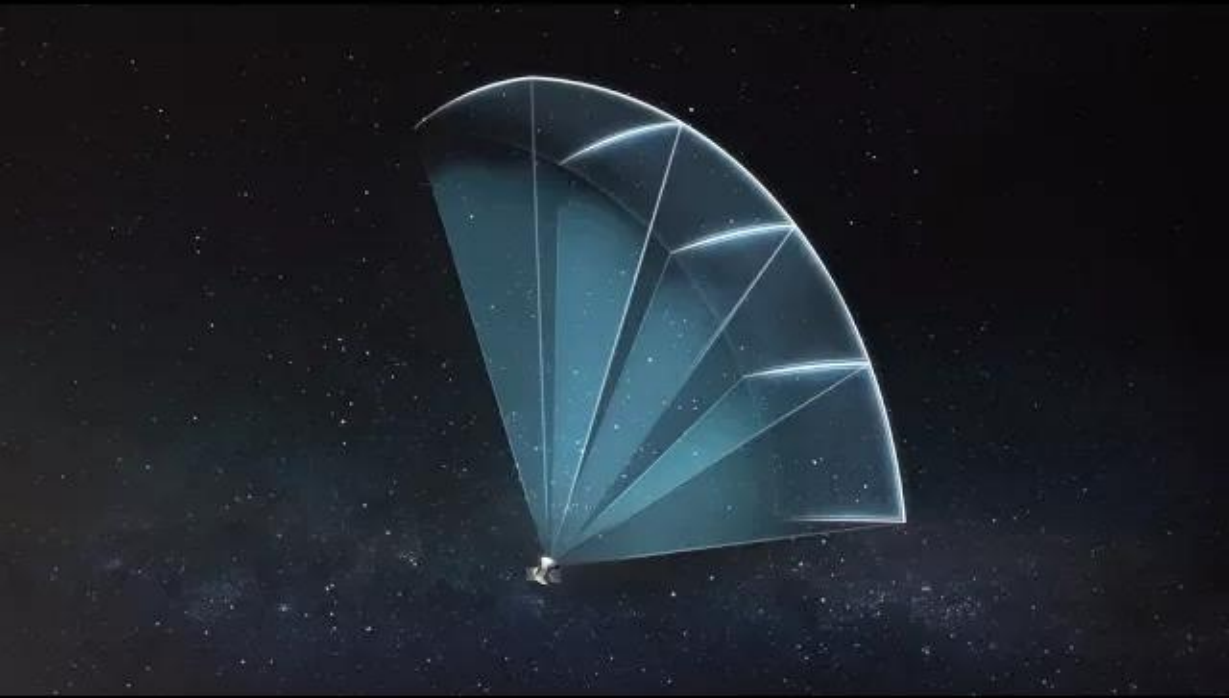

1
00:00:00,030 --> 00:00:05,100
TESS, the Transiting Exoplanet Survey Satellite,

2
00:00:05,120 --> 00:00:09,190
is NASA's newest exoplanet mission. Led by MIT,

3
00:00:09,200 --> 00:00:13,380
TESS will find thousands of new planets orbiting nearby stars.

4
00:00:15,060 --> 00:00:17,580
During its two year survey,

5
00:00:17,610 --> 00:00:21,770
TESS will watch a wide variety of stars, looking for signs of planets ranging

6
00:00:21,790 --> 00:00:25,950
from Earth-size to larger than Jupiter.

7
00:00:25,970 --> 00:00:30,210
Each of TESS's cameras has a 16.8-megapixel sensor

8
00:00:30,230 --> 00:00:34,380
covering a square 24 degrees wide—large enough to

9
00:00:34,400 --> 00:00:38,520
contain an entire constellation. TESS has four of these cameras

10
00:00:38,540 --> 00:00:42,710
arranged to view a long strip of the sky, called an observation sector.

11
00:00:42,730 --> 00:00:46,790
TESS will watch each observation sector for

12
00:00:46,810 --> 00:00:50,940
about 27 days before rotating to the next.

13
00:00:50,960 --> 00:00:55,110

It will cover the southern sky in its first year, and then begin scanning the north.

14
00:00:55,130 --> 00:00:59,180
TESS will study 85 percent of the sky—

15
00:00:59,200 --> 00:01:03,300
an area 350 times greater than what NASA's Kepler mission

16
00:01:03,320 --> 00:01:07,440
first observed—making TESS the first exoplanet mission

17
00:01:07,460 --> 00:01:10,420
to survey nearly the entire sky.

18
00:01:11,620 --> 00:01:15,680
Because TESS's observation sectors overlap, it will have an area

19
00:01:15,710 --> 00:01:19,810
near the pole under constant observation. This region

20
00:01:19,830 --> 00:01:23,940
is easily monitored by the James Webb Space Telescope, which allows

21
00:01:23,960 --> 00:01:28,140
the two missions to work together to first find, and then carefully