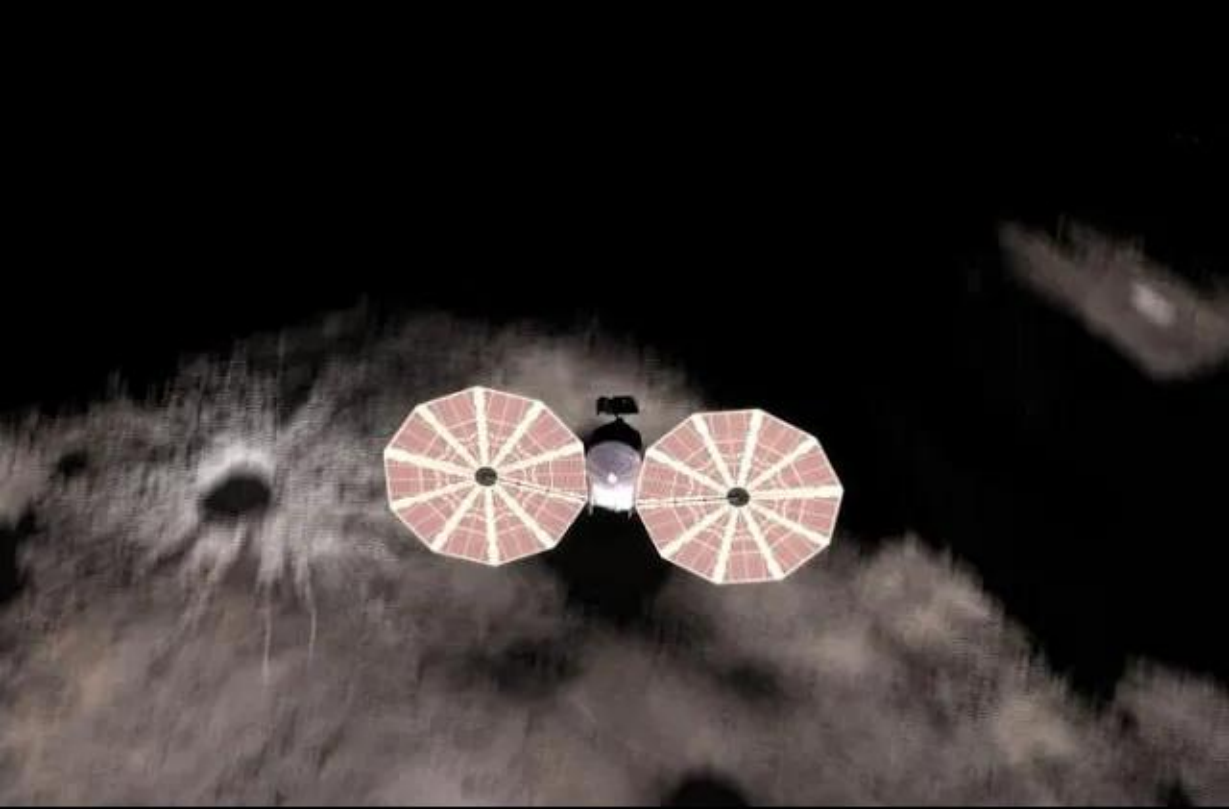

1
00:00:00,100 --> 00:00:05,166
Launching in 2021, NASA's Lucy Mission will fly by seven different Trojan asteroids

2
00:00:05,166 --> 00:00:07,866
orbiting the same distance from the Sun as Jupiter

3
00:00:07,866 --> 00:00:10,400
The mission has four main science objectives:

4
00:00:10,400 --> 00:00:13,600
To study surface geology by mapping craters and other land forms

5
00:00:13,600 --> 00:00:16,833
to determine the age and nature of exterior features;

6
00:00:16,833 --> 00:00:20,466
To map the color and mineral composition of the asteroids' surfaces;

7
00:00:20,466 --> 00:00:24,566
To determine what's beneath the surface as well as each asteroid's mass and density;

8
00:00:24,566 --> 00:00:29,600
And finally, Lucy will look for and study any satellites and rings around the asteroids.

9
00:00:29,600 --> 00:00:32,166
Several instruments are being built for the mission:

10
00:00:32,166 --> 00:00:34,766
L'TES – a thermal emission spectrometer;

11
00:00:34,766 --> 00:00:37,866
L'LORRI – a long-range high-resolution imager;

12
00:00:37,866 --> 00:00:41,833
and L'Ralph – a color imager and infrared spectrometer.

13
00:00:41,833 --> 00:00:44,100

Twin navigation cameras and a high gain antenna

14
00:00:44,100 --> 00:00:46,800
will also help investigate these Trojan asteroids,

15
00:00:46,800 --> 00:00:50,466
which are remnants of the same primordial material that formed the outer planets,

16
00:00:50,466 --> 00:00:53,700
and have so far only been studied with Earth-bound telescopes.

17
00:00:53,700 --> 00:00:56,400
So, as Lucy achieves its science objectives,