1
00:00:00,000 --> 00:00:06,000
(Music)

2
00:00:06,000 --> 00:00:12,000
In 2003, the launch of NASA's Spitzer Space Telescope began a mission designed to last at least

3
00:00:12,000 --> 00:00:20,000
two-and-a-half years. Thirteen years later, Spitzer has operated far beyond the scope of the original mission.

4
00:00:20,000 --> 00:00:28,000
Spitzer's infrared vision has revealed the Universe in new ways, from mapping extrasolar planet temperatures,

5
00:00:28,000 --> 00:00:33,000
to discovering a ring around Saturn hundreds of times larger than any previously known.

6
00:00:33,000 --> 00:00:38,000
Spitzer has also discovered tiny buckyball molecules in space,

7
00:00:38,000 --> 00:00:44,000
and produced a 360 degree infrared panorama of the Milky Way.

8
00:00:44,000 --> 00:00:48,000
Over time, Spitzer has been able to last longer and do more than expected,

9
00:00:48,000 --> 00:00:52,000
thanks to changes in spacecraft operations and engineering.

10
00:00:52,000 --> 00:00:57,000
Increased pointing precision has expanded Spitzer's ability to study and characterize

11
00:00:57,000 --> 00:01:00,000
planets outside our solar system.

12
00:01:00,000 --> 00:01:03,000
Working together, Spitzer and the Hubble Space Telescope

13
00:01:03,000 --> 00:01:07,000

have discovered some of the most distant galaxies known.

14
00:01:07,000 --> 00:01:14,000
Spitzer is now planned to last beyond the 2018 launch of its successor, the James Webb Space Telescope.

15
00:01:14,000 --> 00:01:21,000
Already more than 130 million miles away, Spitzer faces increasing challenges communicating with Earth,

16
00:01:21,000 --> 00:01:25,000
requiring engineers to override some autonomous safety systems.