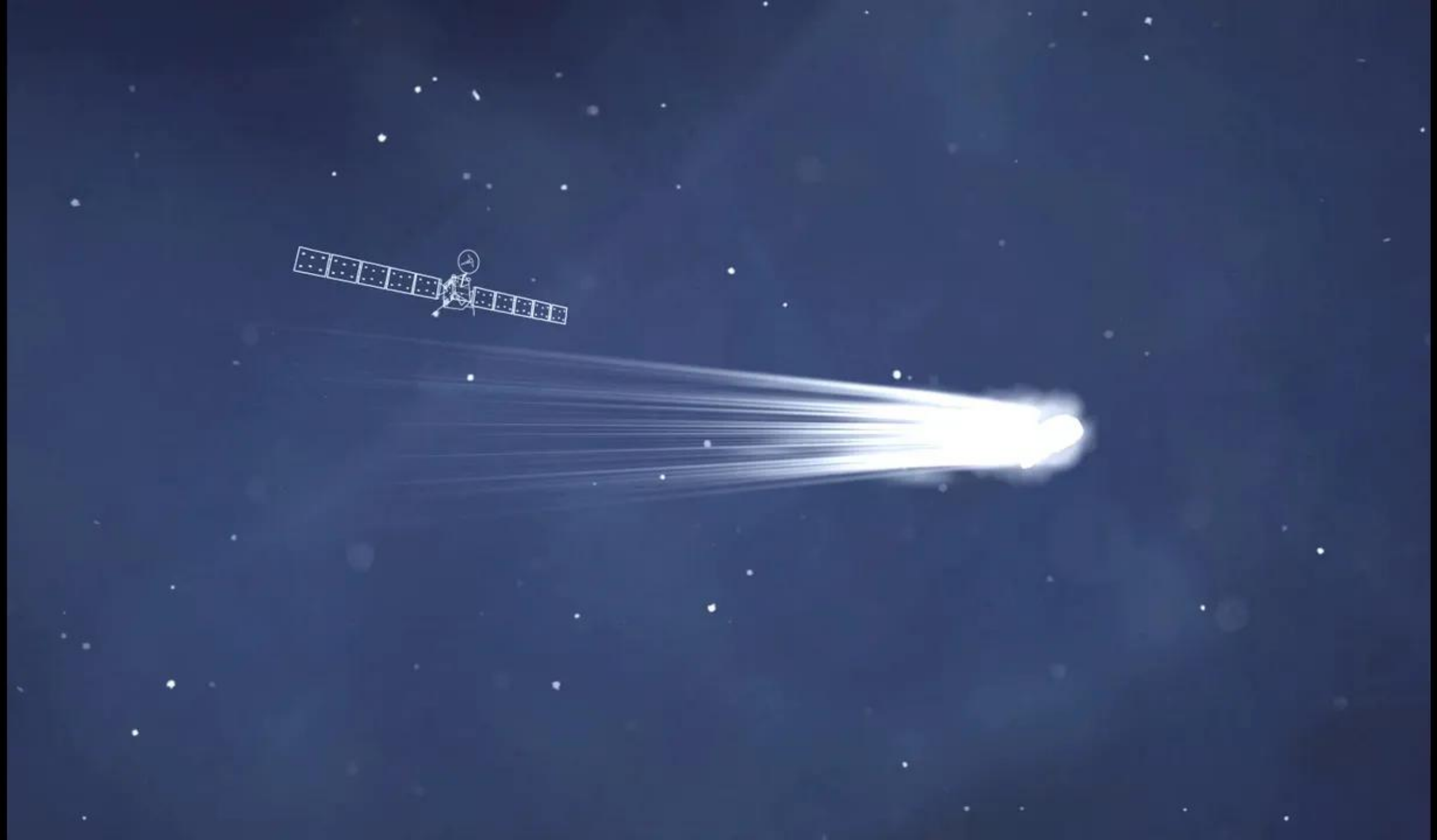

1
00:00:18,280 --> 00:00:15,490
it's possible that comments like 67p

2
00:00:19,930 --> 00:00:18,290
could have their own magnetic field it

3
00:00:21,640 --> 00:00:19,940
wouldn't be a magnetic field the way the

4
00:00:23,230 --> 00:00:21,650
Earth's magnetic field is generates but

5
00:00:26,200 --> 00:00:23,240
it's possible that there could be a

6
00:00:32,019 --> 00:00:26,210
fossil magnetic field locked into the

7
00:00:33,790 --> 00:00:32,029
commentary rocky material so our solar

8
00:00:35,890 --> 00:00:33,800
system formed from the collapse of a

9
00:00:37,840 --> 00:00:35,900
roughly spherical cloud of gas and dust

10
00:00:40,150 --> 00:00:37,850
it turns out there are a bunch of

11
00:00:41,860 --> 00:00:40,160
theories that suggested that the

12
00:00:43,690 --> 00:00:41,870
magnetic fields should have played a

13
00:00:45,250 --> 00:00:43,700

central role in the formation of the Sun

14
00:00:46,600 --> 00:00:45,260
and planets an ancient magnetic field

15
00:00:50,380 --> 00:00:46,610
that exists in the early solar system

16
00:00:52,389 --> 00:00:50,390
that's not there today so looking for

17
00:00:54,790 --> 00:00:52,399
this ancient magnetic field is not an

18
00:00:56,350 --> 00:00:54,800
easy task because you have to find

19
00:00:58,690 --> 00:00:56,360
something visual that's very old and

20
00:01:00,459 --> 00:00:58,700
that's well preserved that's what's a

21
00:01:01,959 --> 00:01:00,469
special role that comets plays they're

22
00:01:05,410 --> 00:01:01,969
kind of an archive of the earliest

23
00:01:07,840 --> 00:01:05,420
conditions of the solar system so this

24
00:01:10,300 --> 00:01:07,850
is where Rosetta comes in Rosetta is the

25
00:01:12,400 --> 00:01:10,310
first mission to orbit around a comet

26
00:01:14,710 --> 00:01:12,410
the first mission to land in the comment

27
00:01:16,960 --> 00:01:14,720
this Lander carried with it a

28
00:01:19,960 --> 00:01:16,970
magnetometer which measures the magnetic

29
00:01:21,609 --> 00:01:19,970
field this was the first opportunity to

30
00:01:24,130 --> 00:01:21,619
look for records of this ancient

31
00:01:28,780 --> 00:01:24,140
magnetic field no one really knew what

32
00:01:30,580 --> 00:01:28,790
to expect what the lander found it

33
00:01:31,830 --> 00:01:30,590
wasn't able to detect any magnetic field

34
00:01:33,510 --> 00:01:31,840
coming from the comet

35
00:01:37,440 --> 00:01:33,520
but there was a magnetic field around

36
00:01:39,240 --> 00:01:37,450
the comment it was extremely weak the

37
00:01:41,459 --> 00:01:39,250
question is with the entire solar system

38
00:01:44,849 --> 00:01:41,469

magnetized was it only a very small part

39
00:01:46,410 --> 00:01:44,859
how the solar system transitioned to the