

A futuristic satellite or probe is shown orbiting a reddish planet. The satellite is a metallic, dome-shaped object with a central circular opening and a bright light source at the top. The background is a dark space filled with numerous small, white stars. The planet's surface is a reddish-brown color, and the satellite is positioned above the horizon line.

deep space technology
experiment ...

1
00:00:00,020 --> 00:00:02,880
our newest mission to Mars is on its way

2
00:00:02,900 --> 00:00:05,400
Vice President Pence visits our Jet Propulsion Laboratory

3
00:00:07,000 --> 00:00:09,080
and observing our
planet's ever-changing water cycle

4
00:00:10,680 --> 00:00:14,320
a few of the stories to tell you about this
week at NASA

5
00:00:16,120 --> 00:00:17,640
Liftoff of the Atlas V ...

6
00:00:17,880 --> 00:00:19,800
our InSight mission to Mars

7
00:00:19,800 --> 00:00:24,390
launched May 5th from California's
Vandenberg Air Force Base. Set to land on

8
00:00:24,390 --> 00:00:28,920
Mars in November, InSight will be the
first mission ever to probe deep beneath

9
00:00:28,920 --> 00:00:32,489
the surface of Mars
to learn more about how all rocky

10
00:00:32,489 --> 00:00:36,680
planets and cosmic bodies including
Earth and its Moon first formed.

11
00:00:37,320 --> 00:00:42,200
Also making the trip is the first of its kind
deep space technology experiment that

12

00:00:42,210 --> 00:00:46,680

will use a pair of CubeSats to test new communications and navigation

13

00:00:46,680 --> 00:00:51,660

capabilities for future missions and may even aid communications for the InSight mission.

14

00:00:53,000 --> 00:00:56,699

Following the launch our new administrator Jim Bridenstine called to

15

00:00:56,700 --> 00:00:59,376

congratulate the InSight team for a job well done

16

00:01:00,020 --> 00:01:00,960

"This is a big day. We're going

17

00:01:00,960 --> 00:01:05,380

back to Mars. We did it from the West Coast which is a first ever.

18

00:01:05,500 --> 00:01:10,020

This is an extraordinary mission with a whole host of firsts. It's important for our country,

19

00:01:10,220 --> 00:01:14,970

It's also important for the world, and it really establishes American

20

00:01:14,970 --> 00:01:16,943

leadership in a lot of ways

21

00:01:17,443 --> 00:01:20,159

Vice President Mike Pence and his family got

22

00:01:20,159 --> 00:01:24,600

a first-hand look at InSight's former home on Earth -- our Jet Propulsion

23

00:01:24,600 --> 00:01:30,570

Laboratory in Pasadena, California, during a tour on April 28th. During a stop at

24

00:01:30,570 --> 00:01:34,590

the center's mission control, the Vice President's daughter, Charlotte sent a

25

00:01:34,590 --> 00:01:39,750

command to the Mars Curiosity rover 80 million miles away. Other tour stops

26

00:01:39,750 --> 00:01:44,700

included JPL's Mars yard and a building where hardware for the next Mars rover,

27

00:01:44,700 --> 00:01:47,545

Mars 2020, is coming together.

28

00:01:47,545 --> 00:01:50,579

The Gravity Recovery and Climate

29

00:01:50,579 --> 00:01:56,880

Experiment Follow-On, or GRACE-FO, mission is gearing up for a launch May 19th from

30

00:01:56,880 --> 00:02:01,710

California's Vandenberg Air Force Base.

The mission's pair of new spacecraft will

31

00:02:01,710 --> 00:02:06,899

observe our planet's ever-changing water cycle, ice sheets, and crust continuing

32

00:02:06,900 --> 00:02:11,080

the work of the first GRACE mission

which ended 15 years of operations in 2017

33

00:02:14,680 --> 00:02:19,300

On May 2, we announced the successful demonstration of a new nuclear reactor power system

34

00:02:19,680 --> 00:02:22,820

designed for space. The prototype for the Kilopower

35

00:02:22,840 --> 00:02:27,810

Reactor Using Stirling Technology

experiment converts heat from a reactor

36

00:02:27,810 --> 00:02:32,069

core into electricity and could

potentially produce enough electrical

37

00:02:32,069 --> 00:02:36,540

power to enable long-duration crewed

missions to the moon Mars and

38

00:02:36,540 --> 00:02:41,190

destinations beyond. The experiment was

conducted in collaboration with the

39

00:02:41,190 --> 00:02:45,780

Department of Energy from November 2017 through March 2018.

40

00:02:47,160 --> 00:02:51,660

our Galileo mission ended in 2003 but newly resurrected

41

00:02:51,860 --> 00:02:53,660

data from the missions first flyby of

42

00:02:54,460 --> 00:02:59,380

Jupiter's moon Ganymede show that plasma rain impacts the moon's icy surface and

43

00:02:59,380 --> 00:03:04,650

strong flows of plasma are pushed

between Jupiter and Ganymede due to an

44

00:03:04,650 --> 00:03:08,910

explosive magnetic event occurring
between the two bodies magnetic

45

00:03:08,910 --> 00:03:14,069

environments. Scientists think these
observations could be key to unlocking

46

00:03:14,069 --> 00:03:20,480

the secrets of Ganymede such as why
Aurora s on the moon are so bright