



InSight Mission Facts

Launch Time: 4:05 AM PT / 7:05 AM ET

Launch Window: 2 Hours

Rocket: Atlas V (401) Configuration

Landing Date: November 26, 2018

Landing Site: Elysium Planitia, Mars

Mission Duration: 728 Earth days

1

00:00:01,630 --> 00:00:05,920

From Vandenberg Air Force Base in central California, you're watching live launch

2

00:00:05,920 --> 00:00:11,910

coverage of NASA's Interior Exploration using Seismic Investigations, Geodesy and

3

00:00:11,910 --> 00:00:17,480

Heat Transport, or InSight, spacecraft to study the interior of Mars.

4

00:00:17,480 --> 00:00:22,009

Hi, I'm Stephanie Martin, and thanks for joining us.

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00:00:22,009 --> 00:00:26,019

NASA's InSight mission is the 20th mission to Mars.

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00:00:26,019 --> 00:00:31,749

Previous missions have taught us a lot about the planet's surface, atmosphere and ionosphere.

7

00:00:31,749 --> 00:00:38,110

InSight, however, will teach us about what goes on a mile or even 2,000 miles below the

8

00:00:38,110 --> 00:00:39,820

surface.

9

00:00:39,820 --> 00:00:44,890

This will help us understand how rocky planets like Mars and Earth were formed, and why the

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00:00:44,890 --> 00:00:49,540

two planets are so different 4.5 billion years later.

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00:00:49,540 --> 00:00:55,460

Today, we have team coverage from NASA's Joshua Finch, Tori McLendon, Blair Allen,

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00:00:55,460 --> 00:01:02,950

Chris Giersch and Franklin Fitzgerald and launch teams across the Air Force base.

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00:01:02,950 --> 00:01:09,399

InSight is flying on United Launch Alliance's Atlas V 401 configuration, and has a two-hour

14

00:01:09,399 --> 00:01:14,369

launch window starting at 4:05 this morning, Pacific time, or 7:05 a.m.

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00:01:14,369 --> 00:01:16,659

Eastern time.

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00:01:16,659 --> 00:01:22,399

Launch teams have two hours to lift off from Space Launch Complex-3 at Vandenberg Air Force

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00:01:22,399 --> 00:01:24,579

Base.

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00:01:24,579 --> 00:01:30,929

InSight is set to land on November 26 in the Elysium Planitia region of Mars, which is

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00:01:30,929 --> 00:01:37,799

about 373 miles from the Gale crater, where NASA's Curiosity rover touched down in August

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00:01:37,799 --> 00:01:40,119

2012.

21

00:01:40,119 --> 00:01:45,689

After InSight lands, it will spend 728 days, or a little over a Martian year, studying

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00:01:45,689 --> 00:01:48,069

the planet's interior.

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00:01:48,069 --> 00:01:54,009

InSight will be the Red Planet's first thorough checkup since it formed 4.5 billion years

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00:01:54,009 --> 00:01:55,009

ago.

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00:01:55,009 --> 00:01:59,749

InSight will take the vital signs of Mars – specifically its pulse, its temperature

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00:01:59,749 --> 00:02:02,219

and its reflexes.

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00:02:02,219 --> 00:02:07,030

After the spacecraft's roughly six-month journey to Mars, it will begin its landing

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00:02:07,030 --> 00:02:08,399

phase.

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00:02:08,399 --> 00:02:14,840

InSight enters the Martian atmosphere traveling at 13,200 miles per hour, and deploys its

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00:02:14,840 --> 00:02:20,780

parachute and ultimately slows down to about 5 miles per hour for touchdown.

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00:02:20,780 --> 00:02:25,890

One minute later, InSight will begin its surface operations, checking out the lander's health

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00:02:25,890 --> 00:02:30,250

indicators, and then deploying its solar arrays.

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00:02:30,250 --> 00:02:34,060

It will take about 10 weeks to place all the instruments on the ground.

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00:02:34,060 --> 00:02:41,700

About 7 weeks later, it will sink its self-hammering heat probe 10 to 16 feet into the Martian

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00:02:41,700 --> 00:02:43,110

soil.

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00:02:43,110 --> 00:02:49,180

There are also two briefcase-sized CubeSats known as Mars Cube One, or MarCO, hitching

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00:02:49,180 --> 00:02:54,450

a ride on today's mission as a part of a NASA technology demonstration mission.

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00:02:54,450 --> 00:03:00,090

MarCO-A and MarCO-B will deploy from the second stage of the Atlas V about a minute after

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00:03:00,090 --> 00:03:05,900

InSight separates, and will then fly toward Mars.

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00:03:05,900 --> 00:03:08,720

We are now about 30 minutes away from today's launch.

41

00:03:08,720 --> 00:03:12,790

Let's check in with NASA's Joshua Finch in the Mission Director's Center for a status