



1
00:00:07,640 --> 00:00:10,530
This Week at NASA...

2
00:00:10,530 --> 00:00:16,610
Scientists now believe Earth's nearest neighbor
Venus is more like our planet than they previously

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00:00:16,610 --> 00:00:21,660
thought. New findings based on pictures and
infrared imagery captured by the European

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00:00:21,660 --> 00:00:27,539
Space Agency's Venus Express mission and
NASA's Magellan spacecraft confirm that

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00:00:27,539 --> 00:00:34,500
Venus is not a cold rock but a dynamic host
of active volcanoes like those found in Hawaii.

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00:00:34,500 --> 00:00:38,600
"The fact that we have discovered this volcanism
that's pretty recent on the surface of Venus

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00:00:38,600 --> 00:00:44,489
definitely moves us toward a picture of Venus
where it continues to have volcanism today,

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00:00:44,489 --> 00:00:49,269
and in a lot of ways, is more like the earth
than we had imagined.

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00:00:49,269 --> 00:00:54,519
Relatively young lava flows within the last
3 million years have been identified by their

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00:00:54,519 --> 00:01:01,449
emissions of infrared radiation. These observations
suggest Venus is still capable of volcanic

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00:01:01,449 --> 00:01:09,490

eruptions. Venus Express has been in orbit around the planet since April 2006.

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00:01:09,490 --> 00:01:14,820

Opportunity, the Mars Exploration Rover, has reached another milestone in its travels around

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00:01:14,820 --> 00:01:19,600

the Red Planet. The rover has covered more than twelve-and-a-half miles since landing

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00:01:19,600 --> 00:01:25,650

on Mars six years ago. Opportunity has explored a series of craters on the plain of Meridiani

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00:01:25,650 --> 00:01:31,229

and now is traveling to another destination -- the Endeavour crater that's 7-and-a-half

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00:01:31,229 --> 00:01:37,480

miles away. If Opportunity continues heading directly to the crater, stopping only to recharge

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00:01:37,480 --> 00:01:43,700

its batteries, the trek should take the rover about two more years.

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00:01:43,700 --> 00:01:49,020

The first, full-scale, friction stir welded and spun-formed tank dome was unveiled by

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00:01:49,020 --> 00:01:53,909

NASA and its partners at a special ceremony at the Marshall Space Flight Center.

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00:01:53,909 --> 00:01:59,200

"It's terrific to be here in person to publicly thank this team and to recognize

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00:01:59,200 --> 00:02:04,549

the great efforts that come out of this work over the last four-to-five years. It's been

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00:02:04,549 --> 00:02:05,840

a terrific effort."

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00:02:05,840 --> 00:02:11,150

Tank domes are a necessary component in fuel tanks for securing liquid propellant.

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00:02:11,150 --> 00:02:16,120

The 18-foot prototype was developed using cutting-edge manufacturing techniques that,

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00:02:16,120 --> 00:02:22,040

by eliminating complex welding, machining and inspection steps, are proving more reliable

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00:02:22,040 --> 00:02:27,540

and less expensive. They can create domes for any large liquid propellant tank.

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00:02:27,540 --> 00:02:31,900

The high-tech dome technology was jointly developed by Marshall, the Langley Research

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00:02:31,900 --> 00:02:40,110

Center, Lockheed Martin Space Systems, and MT Aerospace of Augsburg, Germany.

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00:02:40,110 --> 00:02:45,019

Four members of the STS-130 Endeavour space shuttle crew expressed their appreciation

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00:02:45,019 --> 00:02:49,769

for employees of the Marshall Space Flight Center during a recent visit. The crew thanked

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00:02:49,769 --> 00:02:54,850

employees for supporting the successful February mission to the International Space Station.

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00:02:54,850 --> 00:02:59,480
Among other contributions, Marshall provided the three main engines that powered the crew

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00:02:59,480 --> 00:03:02,599
on their 14-day mission.

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00:03:02,599 --> 00:03:08,940
Commander George Zamka, Pilot Terry Virts, and Mission Specialists Kay Hire and Bob Behnken

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00:03:08,940 --> 00:03:12,020
recapped their time in space with a special video presentation.

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00:03:12,020 --> 00:03:14,030
“How did it feel to be weightless?”

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00:03:14,030 --> 00:03:18,720
They then took questions about their mission to deliver the Tranquility node, and its seven-window

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00:03:18,720 --> 00:03:24,720
cupola attachment to the space station.

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00:03:24,720 --> 00:03:30,769
Twenty-nine years ago, on April 12, 1981, space shuttle Columbia was launched from the

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00:03:30,769 --> 00:03:36,250
Kennedy Space Center. Commanded by Gemini and Apollo veteran John Young and piloted

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00:03:36,250 --> 00:03:42,540
by first-time flyer Bob Crippen, this first space shuttle mission, STS-1, was also the

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00:03:42,540 --> 00:03:48,110
first U.S. manned orbital space flight since
the Apollo-Soyuz Test Project almost six years

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00:03:48,110 --> 00:03:53,480
earlier. Columbia made its ascent into orbit,
where Young and Crippen checked out all of

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00:03:53,480 --> 00:03:58,580
its systems. The orbiter landed safely at
Edwards Air Force Base, California on April

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00:03:58,580 --> 00:04:02,049
14 after 37 trips around the Earth.

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00:04:02,049 --> 00:04:07,349
“We had practiced a lot of malfunctions,
and we were checking out all the systems and

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00:04:07,349 --> 00:04:09,980
making sure they worked, and they worked beautifully.”

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00:04:09,980 --> 00:04:16,890
“I wanted to make sure that I did my part
of the mission well and it was fun, all the

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00:04:16,890 --> 00:04:17,890
way.”

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00:04:17,890 --> 00:04:19,400
And that’s This Week @ NASA.