TW@N

THIS WEEK @ NASA

1
00:00:00,500 --> 00:00:03,536
The benefits of space
station research and development ...

2
00:00:03,536 --> 00:00:07,607
Refining the architecture
for the Mars Sample Return Mission ...

3
00:00:07,607 --> 00:00:12,045
And test firing a solid rocket booster
for our mega Moon rocket ...

4
00:00:12,045 --> 00:00:14,547
a few of the stories
to tell you about – This Week at NASA!

5
00:00:14,547 --> 00:00:19,552
The 11th Annual International Space
Station Research

6
00:00:19,552 --> 00:00:23,957
and Development Conference took place
July 25-28 in Washington.

7
00:00:24,557 --> 00:00:29,095
The conference was hosted by the American
Astronomical Society and the Center

8
00:00:29,095 --> 00:00:33,233
for the Advancement of Science in Space
in cooperation with NASA.

9
00:00:33,666 --> 00:00:37,437
The event coincided
with the release of the 2022 edition

10
00:00:37,637 --> 00:00:41,541
of the International Space Station
Benefits for Humanity publication.

11
00:00:42,008 --> 00:00:45,879
The digital book, which is available
online, is filled with examples

12
00:00:45,879 --> 00:00:48,982
of how people on Earth
have benefited from research

13
00:00:48,982 --> 00:00:52,252
conducted in the microgravity environment
of the space station.

14
00:00:52,652 --> 00:00:56,589
For more about the groundbreaking
discoveries, benefits for humanity,

15
00:00:56,823 --> 00:01:00,427
and how the agency and its commercial
and international partners

16
00:01:00,627 --> 00:01:04,230
are maximizing research and development
aboard the space station,

17
00:01:04,230 --> 00:01:07,667
check out nasa.gov/stationbenefits.

18
00:01:08,334 --> 00:01:10,937
The Mars Sample Return program is nearing

19
00:01:10,937 --> 00:01:14,040
completion of the conceptual design
phase of the mission.

20
00:01:14,407 --> 00:01:18,745
The program has reviewed, evaluated,
and refined the mission architecture

21
00:01:18,878 --> 00:01:22,549

that will be used to return
the scientifically selected samples

22
00:01:22,749 --> 00:01:26,386
currently being collected on Mars
by our Perseverance rover.

23
00:01:26,853 --> 00:01:30,490
Refinements to the mission
architecture include using Perseverance

24
00:01:30,623 --> 00:01:34,360
to replace the Sample Fetch Rover
as the primary means

25
00:01:34,360 --> 00:01:38,298
of transporting the samples
to our Sample Retrieval Lander.

26
00:01:38,765 --> 00:01:42,368
The program has also added
two sample recovery helicopters

27
00:01:42,469 --> 00:01:46,473
based on the design of our Ingenuity
helicopter that will provide

28
00:01:46,473 --> 00:01:49,776
a secondary capability
to fetch cached samples from

29
00:01:49,776 --> 00:01:53,646
the Martian surface.

30
00:01:55,115 --> 00:01:56,282
Teams from NASA's

31
00:01:56,282 --> 00:02:00,320
Space Launch System
or SLS Program recently test fired

32
00:02:00,320 --> 00:02:05,191
a ground-based version of a booster engine
for our SLS mega Moon rocket

33
00:02:05,391 --> 00:02:09,028
at Northrop Grumman's test
facility in Promontory, Utah.

34
00:02:09,629 --> 00:02:13,266
Engineers are using the test data
to evaluate improvements

35
00:02:13,266 --> 00:02:17,637
and new materials in the boosters
for missions after Artemis III.

36
00:02:17,637 --> 00:02:21,508
Together, two solid rocket
boosters on SLS will provide

37
00:02:21,508 --> 00:02:25,712
more than 75% of the initial thrust
during an Artemis launch.

38
00:02:26,579 --> 00:02:31,050
NASA's Volatiles Investigating
Polar Exploration Rover or VIPER

39
00:02:31,050 --> 00:02:35,188
prototype, recently faced
the most realistic tests to date

40
00:02:35,488 --> 00:02:38,224
of its ability to navigate
the most difficult

41
00:02:38,224 --> 00:02:41,127
terrain it might encounter
at the Moon's South Pole.

42
00:02:41,628 --> 00:02:46,266
The VIPER team used the Simulated
Lunar Operations or SLOPE Lab at our Glenn

43
00:02:46,266 --> 00:02:50,470
Research Center to create an assortment
of tricky soil conditions.

44
00:02:50,970 --> 00:02:54,374
They also tested the prototype's ability
to use its wheels

45
00:02:54,541 --> 00:02:57,143
to inchworm its way out of being stuck.

46
00:02:57,744 --> 00:03:01,814
VIPER is targeted for delivery to the Moon
in November 2024

47
00:03:02,115 --> 00:03:06,653
to search for water and other resources
that could eventually be harvested

48
00:03:06,653 --> 00:03:10,857
to sustain human exploration on the Moon,
Mars – and beyond.

49
00:03:11,524 --> 00:03:15,094
We participated in the Experimental
Aircraft Association's

50
00:03:15,094 --> 00:03:17,764
AirVenture Oshkosh 2022 event.

51
00:03:18,264 --> 00:03:22,268
Our NASA pavilion included exhibits
and hands-on demonstrations,

52

00:03:22,468 --> 00:03:26,940
showcasing aviation inspired technology
and the latest in NASA

53
00:03:26,940 --> 00:03:31,010
aeronautics research, space
exploration, science, and more.

54
00:03:31,444 --> 00:03:35,448
One of the goals of the annual event,
which is often called the world's greatest

55
00:03:35,448 --> 00:03:40,153
aviation celebration, is to inspire
the next generation of innovators.

56
00:03:40,687 --> 00:03:42,689
That's what's up this week @NASA ...