AMS
Canada

1
00:00:00,359 --> 00:00:03,610
Spacewalkers work on a cosmic particle detector
…

2
00:00:03,610 --> 00:00:07,370
More potential partners to transport payloads
to the Moon…

3
00:00:07,370 --> 00:00:11,759
And a key finding on a Jovian moon … a few
of the stories to tell you about – This

4
00:00:11,759 --> 00:00:15,059
Week at NASA!

5
00:00:15,059 --> 00:00:20,430
On Nov. 22, our Andrew Morgan and the European
Space Agency's Luca Parmitano were back

6
00:00:20,430 --> 00:00:25,750
outside the International Space Station for
their second spacewalk in as many weeks – working

7
00:00:25,750 --> 00:00:32,149
to repair a cosmic particle detector called
the Alpha Magnetic Spectrometer, or AMS.

8
00:00:32,149 --> 00:00:38,079
The main focus of this outing was to perform
bypass surgery, of sorts, by accessing, cutting,

9
00:00:38,079 --> 00:00:43,900
and labeling the stainless steel tubes that
attach the current cooling system to the AMS,

10
00:00:43,900 --> 00:00:48,560
so that a new system can be attached off to
the side of the AMS.

11

00:00:48,560 --> 00:00:53,711
This extremely complex series of spacewalks
has called for the design, development, and

12
00:00:53,711 --> 00:01:00,750
validation of many specialized tools by engineers
and astronauts here on Earth.

13
00:01:00,750 --> 00:01:06,320
On Nov. 18, we announced five American companies
have been added to the pool of vendors eligible

14
00:01:06,320 --> 00:01:11,630
to bid on proposals to provide deliveries
to the surface of the Moon through the agency's

15
00:01:11,630 --> 00:01:15,200
Commercial Lunar Payload Services, or CLPS
initiative.

16
00:01:15,200 --> 00:01:21,900
The additions of Blue Origin, Ceres Robotics,
Sierra Nevada Corporation, SpaceX, and Tyvak

17
00:01:21,900 --> 00:01:28,619
Nano-Satellite Systems Inc. increase the number
of contracted CLPS participants to 14.

18
00:01:28,619 --> 00:01:33,869
It also further expands NASA's work with
U.S. industry to build a strong marketplace

19
00:01:33,869 --> 00:01:39,400
for delivery of payloads between Earth and
the Moon, in support of our Artemis program's

20
00:01:39,400 --> 00:01:44,869
efforts to put the first woman and next man
on the Moon by 2024.

21

00:01:44,869 --> 00:01:50,950
For more about CLPS, visit nasa.gov/clps.

22
00:01:50,950 --> 00:01:54,940
There is previous evidence of liquid water
under the icy surface of Jupiter's moon

23
00:01:54,940 --> 00:02:00,330
Europa that may sometimes erupt as plumes
sent into space from huge geysers.

24
00:02:00,330 --> 00:02:05,530
But no one has been able to confirm the presence
of water in these plumes by directly measuring

25
00:02:05,530 --> 00:02:07,430
the water molecule itself.

26
00:02:07,430 --> 00:02:13,080
Now, an international research team led out
of our Goddard Space Flight Center has detected

27
00:02:13,080 --> 00:02:16,980
the water vapor for the first time above Europa's
surface.

28
00:02:16,980 --> 00:02:22,250
This confirmation of water vapor above Europa
helps scientists better understand the inner

29
00:02:22,250 --> 00:02:27,920
workings of the moon and supports their belief
that a liquid water ocean, possibly twice

30
00:02:27,920 --> 00:02:34,010
as big as Earth's, is present beneath the
moon's miles-thick ice shell.

31
00:02:34,010 --> 00:02:38,650
Our Jet Propulsion Laboratory in Pasadena,

California is developing a robotic explorer

32
00:02:38,650 --> 00:02:44,180
that could turn the search for life upside
down on icy worlds like Jupiter’s moon Europa

33
00:02:44,180 --> 00:02:48,349
– that are believed to have liquid water
below their surfaces.

34
00:02:48,349 --> 00:02:54,480
The Buoyant Rover for Under-Ice Exploration
can explore below icy waters by driving on

35
00:02:54,480 --> 00:02:59,960
the underside of sea ice, and has been tested
previously in Alaska and the Arctic.

36
00:02:59,960 --> 00:03:05,710
The rover, which carries several science instruments
to measure parameters related to life as we

37
00:03:05,710 --> 00:03:12,099
know it on Earth, is now on a month-long campaign
in Antarctica to test its endurance.

38
00:03:12,099 --> 00:03:17,440
NASA’s Europa Clipper mission – targeted
for launch in 2025 – could lay the groundwork

39
00:03:17,440 --> 00:03:23,890
for a future mission to search for life beneath
the icy surface of Europa.

40
00:03:23,890 --> 00:03:29,270
Our aeronautics research in quiet supersonic
flight, urban air mobility, electrified aircraft

41
00:03:29,270 --> 00:03:34,659
propulsion, advanced air traffic management

and more was in the spotlight during a Nov.

42
00:03:34,659 --> 00:03:37,450
20 “Flight Night” event on Capitol Hill.

43
00:03:37,450 --> 00:03:42,010
The congressional event featured interactive
exhibits and presentations that illustrate

44
00:03:42,010 --> 00:03:47,860
how work by NASA supports a key economic sector
for the nation, and leads to advancements

45
00:03:47,860 --> 00:03:52,930
that help make the aviation industry better
equipped to safely and efficiently transport

46
00:03:52,930 --> 00:03:56,650
passengers and cargo to destinations around
the world.

47
00:03:56,650 --> 00:03:59,540
That’s what’s up this week @NASA …