1
00:00:00,339 --> 00:00:04,860
New arrivals in low-Earth orbit – welcome
aboard the space station!

2
00:00:04,860 --> 00:00:08,300
More research, supplies, and other cargo heads
to the station …

3
00:00:08,300 --> 00:00:13,370
And a new partner for our Moon to Mars effort
… a few of the stories to tell you about

4
00:00:13,370 --> 00:00:15,790
– This Week at NASA!

5
00:00:15,790 --> 00:00:20,380
The three newest occupants of the International
Space Station arrived at the orbital outpost

6
00:00:20,380 --> 00:00:26,800
on September 25, about six hours after launching
from the Baikonur Cosmodrome in Kazakhstan.

7
00:00:26,800 --> 00:00:33,500
Our Jessica Meir, Expedition 61/62 crewmate
Oleg Skripochka of Roscosmos, and Spaceflight

8
00:00:33,500 --> 00:00:39,340
Participant Hazzaa Ali Almansoori of the United
Arab Emirates were welcomed by the crew already

9
00:00:39,340 --> 00:00:40,690
on board.

10
00:00:40,690 --> 00:00:47,510
The Expedition 61/62 crew will support about
250 investigations and technology demonstrations

11
00:00:47,510 --> 00:00:53,610

not possible on Earth, leading to potential
benefits for everyday life and enabling future

12
00:00:53,610 --> 00:00:56,629
long-duration exploration into deep space.

13
00:00:56,629 --> 00:01:03,000
A day earlier, an unpiloted cargo spacecraft
headed to the space station from Japan's

14
00:01:03,000 --> 00:01:08,369
Tanegashima Space Center, loaded with more
than four tons of supplies, spare parts and

15
00:01:08,369 --> 00:01:11,159
experiment hardware for the station crew.

16
00:01:11,159 --> 00:01:16,960
The cargo includes six new lithium-ion batteries
to replace aging nickel-hydrogen batteries

17
00:01:16,960 --> 00:01:19,500
for two of the station's power channels.

18
00:01:19,500 --> 00:01:23,950
The batteries will be installed through a
series of robotic operations and spacewalks

19
00:01:23,950 --> 00:01:26,829
later this year.

20
00:01:26,829 --> 00:01:31,520
U.S. Secretary of Commerce Wilbur Ross and
Australian Prime Minister Scott Morrison were

21
00:01:31,520 --> 00:01:36,740
on hand for a recent ceremony at NASA headquarters,
during which our Deputy Administrator, Jim

22

00:01:36,740 --> 00:01:42,920
Morhard and Head of the Australian Space Agency,
Megan Clark, signed a joint statement announcing

23
00:01:42,920 --> 00:01:48,399
Australia's intention to join America's
Moon to Mars exploration approach, including

24
00:01:48,399 --> 00:01:50,659
our Artemis lunar program.

25
00:01:50,659 --> 00:01:55,679
The statement foresees potential Australian
contributions in areas of mutual interest

26
00:01:55,679 --> 00:02:01,200
– such as robotics, automation, and remote
asset management – similar to what is currently

27
00:02:01,200 --> 00:02:04,509
used in Australian mining operations.

28
00:02:04,509 --> 00:02:09,909
This builds on a unique history of space cooperation
between our countries that dates back to the

29
00:02:09,909 --> 00:02:11,739
Apollo era.

30
00:02:11,739 --> 00:02:17,400
The contract for the production and operations
of our Orion spacecraft has been awarded to

31
00:02:17,400 --> 00:02:19,220
Lockheed Martin.

32
00:02:19,220 --> 00:02:25,099
This sets into motion the spacecraft production
line that will support as many as 12 Artemis

33
00:02:25,100 --> 00:02:30,620
missions, including the one that will carry
the first woman and next man to the Moon by 2024.

34
00:02:31,620 --> 00:02:35,800
Spacecraft production for Orion – managed
by our Johnson Space Center in Houston – will

35
00:02:35,819 --> 00:02:41,040
focus on reusability and building a sustainable
presence on the lunar surface.

36
00:02:41,040 --> 00:02:46,569
For more about Orion, visit:
nasa.gov/orion.

37
00:02:46,569 --> 00:02:52,000
Just in time for NASA's Black Hole Week,
our TESS and Swift missions gave us a look

38
00:02:52,000 --> 00:02:57,890
at an extremely rare, star-destroying phenomenon
called a tidal disruption – this particular

39
00:02:57,890 --> 00:03:02,260
one was first spotted by TESS in Jan. 2019.

40
00:03:02,260 --> 00:03:07,590
Tidal disruptions happen when a star strays
too close to a black hole and is broken apart

41
00:03:07,590 --> 00:03:12,640
by the black hole's extreme gravity and
intense tides – turning the star into a

42
00:03:12,640 --> 00:03:14,620
stream of gas and debris.

43
00:03:14,620 --> 00:03:18,859

Astronomers think the supermassive black hole
that generated this tidal disruption is about

44
00:03:18,859 --> 00:03:24,930
6 million times the Sun’s mass and sits
at the center of a galaxy about 375 million

45
00:03:24,930 --> 00:03:26,670
light-years from us.

46
00:03:26,670 --> 00:03:32,730
These disruptions take place only once every
10,000 to 100,000 years in a galaxy the size

47
00:03:32,730 --> 00:03:35,730
of our Milky Way.

48
00:03:35,730 --> 00:03:39,749
Registration is open for NASA’s International
Space Apps Challenge.

49
00:03:39,749 --> 00:03:46,239
The world’s largest global hackathon, now
in its eighth year, takes place Oct. 18-20,

50
00:03:46,239 --> 00:03:52,200
and is open worldwide to anyone who is interested
in using NASA data to tackle real problems

51
00:03:52,200 --> 00:03:54,099
on Earth and in space.

52
00:03:54,099 --> 00:03:59,180
No educational or professional background
in science or coding is required.

53
00:03:59,180 --> 00:04:01,870
For more details go to spaceappschallenge.org.