
NASA's
BREAK
THE ICE
LUNAR CHALLENGE

1
00:00:00,000 --> 00:00:05,536
For NASA's upcoming Artemis missions, we're going\h
to have a long-term sustained presence on the\hMoon.

2
00:00:05,536 --> 00:00:09,840
In order to do that, we're going to need\h
to access the water. The reason we're focused\h\h

3
00:00:09,840 --> 00:00:14,640
on excavating and hauling and using the water\h
that can be found on the Moon is because if we\h\h

4
00:00:14,640 --> 00:00:19,876
can use the local resources then we won't have\h
to ship tons and tons of those resources all\h\h

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00:00:19,876 --> 00:00:26,199
the way from Earth to the Moon. NASA's Break the\h
Ice Lunar Challenge is so groundbreaking, pun\hintended,

6
00:00:26,199 --> 00:00:30,060
because it's going to advance\h
technologies for digging and excavating\h\h

7
00:00:30,060 --> 00:00:36,906
icy regolith and for transporting those materials\h
in order to support our long-term human sustained\hmissions.

8
00:00:36,906 --> 00:00:41,162
And the lunar environment that these\h
robots need to operate in is very extreme.\h\h

9
00:00:41,162 --> 00:00:46,952
At the lunar South Pole it's very dark, it's very cold\h
and it's a complete and total vacuum.

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00:00:46,952 --> 00:00:53,158
So in Phase 2, Level 1 of this challenge, what we've asked\hteams to do is to design a robot on paper and to\h

11

00:00:53,158 --> 00:01:00,270
design a system for excavating icy regolith and\h
transporting that icy regolith on the surface of\hthe Moon.

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00:01:00,270 --> 00:01:04,680
We've been really impressed with all the\h
ideas that we've received in Phase 2, Level 1.

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00:01:04,680 --> 00:01:09,432
The teams have really come up with some innovative\h
and really out-of-the-box ideas. We are really\h\h

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00:01:09,432 --> 00:01:14,270
hopeful that some of the winners of this challenge\h
will go on some day to fly their robots all the way\h\h

15
00:01:14,270 --> 00:01:19,092
to the surface of the Moon and we think that\h
some of the technologies that are invented in\h\h

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00:01:19,092 --> 00:01:24,240
this challenge could also be used here on Earth.\h
The winners of Level 1 are going to move on\h\h

17
00:01:24,240 --> 00:01:28,272
to Level 2 where they will actually build the\h
robots that they've designed and then they will\h\h

18
00:01:28,272 --> 00:01:32,879
test them in simulated lunar conditions and they\h
will test them for long durations.

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00:01:32,879 --> 00:01:38,107
I am really excited to announce the winners of NASA's Break\h
the Ice Lunar Challenge Phase 2, Level 1.

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00:01:38,844 --> 00:01:44,909
Winning Teams. Aurora Robotics, Fairbanks, Alaska. Cislune Excavators, Alhambra, California. Ice Busters, O

21
00:01:44,909 --> 00:01:50,215

Moog Inc., Elma, New York. Moon Industry, Inc., Netherlands. MTU-PSTDL (Planetary Surface Technology De

22
00:01:50,215 --> 00:01:57,811
Space Trajectory, Brookings, South Dakota. Starpath, San Francisco, California. Team Chandra, Noida, Uttar

23
00:01:58,191 --> 00:02:03,240
Congratulations to all of the Break the Ice\h
Lunar Challenge Phase 2, Level 1 winners.\h\h

24
00:02:03,240 --> 00:02:08,460
We look forward to seeing your technologies\h
being used on missions to the Moon and beyond.