

Polaris Dawn astronauts complete

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5 Two astronauts have completed the first commercial spacewalk and tested slimmed-down spacesuits designed by SpaceX. Orbiting at close to 30,000km/h, the billionaire Jared Isaacman exited the space capsule on Thursday. “Back at home we all have a lot of work to do, but from here Earth sure looks like a perfect world,” said the 41-year-old space enthusiast.

10 Isaacman was followed by Sarah Gillis, a senior engineer at SpaceX. She conducted movement tests to assess how the new SpaceX suit – a much less bulky equivalent of the Nasa equipment – operates in the vacuum of space. To prepare for the test, the Crew Dragon capsule was completely depressurised, meaning the whole crew relied on their spacesuits for oxygen and pressure.

15 Only well-funded government agencies had so far managed to carry out spacewalks. Most have been done from the International Space Station (ISS) and the Chinese Tiangong space station. Private companies are gradually taking the lead in. Nasa has contracted SpaceX to land astronauts, including the first woman, on the moon this decade.

20 The Polaris Dawn mission is the second that Isaacman has funded. The missions are estimated to cost hundreds of millions of dollars. In 2021 the private pilot and now trained astronaut, who made millions from his electronic payment company Shift4, flew on the first orbital spaceflight by an all-civilian crew. That mission included a cancer survivor as well as a data engineer who won his seat in a raffle draw. Elon Musk’s SpaceX has operated both missions and sees them as major milestones in making access to space easier and cheaper. Musk plans to take astronauts back to the moon and eventually to Mars.

25 Ian Whittaker, a space physics expert, said the success of the “first non-space agency astronaut spacewalk” was “extremely exciting for the private space industry as it is the first step on a longer road towards space tourism”. “The high cost will mean that only the ultra-rich get to experience this for now but putting this cost in the hands of businesses means that taxpayer money can be used for other purposes,” he said.

The spacewalk lasted about 30 minutes, and Isaacman and Gillis always remained on the ladder. While walking is impossible in microgravity, Nasa defines a spacewalk as “any time an astronaut gets out of a vehicle while in space”.

30 The first person to “walk” in space, the Soviet cosmonaut Alexei Leonov, spent 12 minutes outside his spacecraft in 1965. His mission showed some of the risks associated with designing spacesuits: by the end of the spacewalk, Leonov’s suit had inflated in the vacuum of space to the point where he could no longer fit back in the airlock. He had to manually release air to get inside.

35 During their five-day mission, the Polaris Dawn’s crew will act as test subjects by travelling through portions of the Van Allen radiation belt and then analysing the effects of space radiation on their bodies. Polaris Dawn’s spacewalk happened at the same time as a record 19 astronauts orbited Earth. (502 words)