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Russian ISS Cosmonauts to get Next-Generation Space Suits

By Matthew Bodner

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The Orlan suits currently used by cosmonauts aboard the ISS are the fourth-generation Orlan-MK suits, but they are nearing the end of their lifespan.

Russia's iconic golden Orlan spacesuits will be replaced with upgraded fifth-generation models aboard the International Space Station, or ISS, next year, as senior space official said on Tuesday, adding that jetpacks are in the works as well.

"The suits will be on ISS in the fall of 2015," Interfax quoted Vladimir Solovyev, the Federal Space Agency's head of the Russian segment of the space station, as saying.

Russia's Orlan series of extravehicular spacesuits — worn by cosmonauts on space-walks outside the space station — are massively popular among both cosmonauts and astronauts, their non-Russian equivalents. In comparison to the U.S. suits, the one-piece Orlan design is easier to put on and take off, as the suit features a hatch on the back.

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Some of the newer features of the suit include automated environmental control systems, allowing the cosmonaut to focus on work rather than his air conditioning, as well as polyurethane seals to increase the service life of the suits.

Solovyev was quoted by ITAR-Tass as saying that NPP Zvezda, the company the builds the Orlan suits, is also working on a new jetpack to go with them. The jetpacks would be used to return cosmonauts to the ISS airlock if they become detached from the station's exterior — a feature that would be activated by the simple click of a button.

"This capability is very important," he said. Cosmonauts traverse the station's hull by moving two hooks from anchor to anchor, minimizing the risk of coming lose by always making sure one tether remains attached.

"We have had several cases where the cosmonauts, in violation of instructions, unfasten two [lines] and hold on with their hands. This is essentially a bad situation," Solovyev added.

Meanwhile, NASA's space suits are currently out of action following a harrowing incident with Italian astronaut Luca Parmitano's suit during an July 2013 spacewalk. While working outside of the ISS, Parmitano reported that his helmet was filling with water, prompting an immediate end to the spacewalk when the water began to obstruct his breathing. Replacements will be delivered by U.S. private space firm SpaceX on Sept. 19.

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Contact the author at bizreporter@imedia.ru

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