



SPACEWEAR

ASTRONAUT EQUIPMENT

After the successful test of the wearable suit Smart Flight Suit 1 (SFS1) on June 29, 2023, during the "Virtute 1" mission by the Italian Air Force departing from Virgin Galactic's Spaceport America, Spacewear further enhanced the performance of both materials and data detection, creating the evo SFS2 suit for active and passive safety.

The Smart Flight Suit 2 is constructed with over two hundred pieces and new generation fabric, lightweight, breathable, fireproof, antimagnetic, and thermoregulatory. The suit monitors the astronaut's medical data such as pressure, temperature, heart rate, and sleep quality, thanks to the integration of a high-precision device (Class 2) developed by the Italian company Advanced Processing, which does not require direct contact with the body. SFS2 is designed, engineered, and manufactured to enhance the comfort and quality of life for astronauts and future space crews.

The SFS2 suit has successfully passed the review process by NASA and the International Space Station board and was the only authorized experimental Italian suit to be tested on board the ISS during the Ax-3 mission by Axiom Space. Thanks to collaboration with the Italian Air Force, the suit was tested by astronaut Col. Walter Villadei, the pilot of the Ax-3 mission. Tests were conducted during the 15 days of his stay aboard the ISS, at different times, days, and conditions. SFS2 collected the astronaut's medical data on board the ISS, which was crucial for conducting indicative tests and obtaining basic data for other experiments that cannot collect data on board but only on Earth.

SFS2 is entirely Made in Italy, conceived and produced by the Italian startup Spacewear Astronaut Equipment, which focuses its activity on research and development of integrated fabrics, devices, and designs. This achievement by Spacewear projects Made in Italy into space for the first time, paving the way for a potential renewal of the clothing textile system with implications for Earth, evolving functionality, integration, sustainability, and Italian design.

Regulations to venture into space with FAA and NASA authorizations, and thus access to the International Space Station, required extensive work, in-depth expertise on materials, technologies, and integration capabilities. All functions must be certified, and data detection methods must comply with international protocols for scientific research.

Spacewear has achieved its objectives and is opening new "spaces".