HUMAN SPACE ENDEAVOURS SYMPOSIUM (B3)
Astronauts: Those Who Make It Happen (5)

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COSMONAUT AS A RESEARCHER AND A TEST-PILOT IN SPACE: FLIGHT EXPERIENCE ON THE ISS

Abstract

For almost fifty years after the historic flight of Yuri Gagarin people have been flying to space, mainly to the low Earth orbit. The results of these flights are well-known. Over the last 11 years all human spaceflights have been related primarily to the International Space Station (ISS). All participants of this process became used to standard processes and procedures for research development, crew training, safety data package reviews, and cargo manifesting. Continuous growth of ground support personnel as well as further subdivision of their functions is accompanied with an increase in bureaucracy at all levels of control and generation of huge amounts of documentation for different purposes. As a consequence, the global public attention to space exploration naturally subsides, or even disappears, and crews actually turn into "taxi drivers" or "lab workers". At the same time, the governments of the ISS member-nations drastically require reports from their agencies accounting for spending significant amounts of money, whereas specialists responsible for ISS utilization are constantly and feverishly looking for more and more convincing reasons justifying the existence of the Space Station. With the exception of unplanned contingencies, the crew in the most cases is actually an ISS element providing support of operations and utilization. Nevertheless, even under these conditions an ISS crewmember can be and must be not a taxi driver and a lab worker but a test pilot and a researcher instead. This paper explores an ISS crewmember's creative role in the capacity of a test-pilot and a researcher in space on the basis of real flight experience, unveils their ability to vitalize a transition from the paradigm "human in space is a component of the machine under the ground control" to the paradigm "human in space making autonomous decisions with the help of the vehicle controlled by him/her and recommendations of ground infrastructures". This transition is critical for implementation of journeys beyond the low Earth orbit.