

IAF SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)
Interactive Presentations - IAF SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS
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E-SPACE: REVAMPING OLD SPACE IDEAS TO BRING THE NEW INTO NEW SPACE

Abstract

We are currently witnessing the emergence of a New Space Age, in which an increasing number of companies and institutions require greater access to space to conduct experiments, tests and simulations in a microgravity environment. And yet, despite the optimization, cost reduction and availability of the access to space, we are still using the same business model of launching satellites with no possibility of payload recovery.

This possibility of returning to Earth opens new opportunities, among others, for basic and applied research, technology demonstration, biomedical and pharmaceutical research and applications, remote sensing, in-orbit servicing or built-in laboratory for material production.

E-Space is developing an unmanned Orbiter, based on the modernization, and updating of concepts previously developed in Ukraine for different spaceplane, to meet current needs and enable new market opportunities under a model that allows independency of the launcher, operation and recovery of the payload. The Orbiter will be able to maneuver in space for a specified time, open its payload bay (to expose it to space or deploy satellites), and re-enter Earth's atmosphere. This vehicle will be reusable and prepared in short time for a new launch.

The E-Space solution is specifically designed for small payloads. E-Space's objective is to offer high flexibility and regular availability of access to microgravity environments at a competitive cost thanks to a design based on system reusability, the use of new green propulsion technologies and with a capacity adapted to current market requirements. E-Space's goal is to limit the initial investment, reaching the largest number of potential customers and allowing a quick return of the investment. Therefore, E-Space's solution is conceived as a scalable system to meet the market needs at any time.

E-Space is re-introducing the concept of "Industrial Space", the industrialization of outer space to make it an integral part of the planetary economy, enabling activities comparable to those on Earth and ensuring the reliability and safety of services and products developed in space.