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ICE CUBES – INTERNATIONAL COMMERCIAL EXPERIMENT SERVICE FOR FAST-TRACK, SIMPLE AND AFFORDABLE ACCESS TO SPACE FOR RESEARCH – STATUS AND EVOLUTION

Abstract

We are at the dawn of a new commercial spaceflight era. Space is no longer in the domain of agencies and governments only, but is being democratized. Everyone can access space now at reasonable costs and the barriers that limit the access to space are torn down.

Upon the formal signature of the public/private partnership with the European Space Agency in June 2017, the International Commercial Experiment Cubes (ICE Cubes) service has been established as first such service in Europe to provide fast, simple and affordable access to the ISS for research, technology, and education. The ICE Cubes service is suitable to provide access to space for a wide range of user groups: scientists / research institutes; industrial RD companies; in-orbit testing and validation of technologies and processes; emerging space-faring nations capacity building and educational experiments and demonstrations in the STEM areas.

Past studies show that the potential of microgravity is high and the interest is significant. However the level of awareness is low. That unless previously involved with spaceflight, the number of commercial and even academic researchers seeking solutions in microgravity is low. Hence significant effort is being done to extend the user network and to establish value propositions for specific research areas. Related dedicated state-of-the-art diagnostics for RD areas will be established as part of the ICE Cubes program.

By the time of the IAC conference, the first ICE Cubes facility will have been launched to the ISS, will have been commissioned and will have operated the first batch of research experiment cubes. This paper will provide a status on the establishment of the service for each of the user groups.

The ICE Cubes service to ISS is the first step of an access service scenario that will potentially include free flyers, external platforms, lunar landers/rovers and post ISS infrastructures. Steps are on-going to evolve and enhance the ICE Cubes service by expanding from access to ISS to a range of other space platforms. A marketing strategy has been elaborated for the service to ISS and will evolve, based on the inclusion of new platforms. It is based on various phase of awareness increase, enabling, inspiration, consolidation and establishment of partnerships.

This paper will present the status of the ICE Cubes Service for access to ISS and the evolution into a wider Space access service scenario.