



PROMOTING SPACE SUSTAINABILITY: D-ORBIT CASE STUDY

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Dr. Catherine Doldirina
catherine.doldirina@dorbit.space



D-ORBIT SPACE ACTIVITIES





D-Orbit – a Benefit Corporation

We are a B-Corp: a company with a goal to create a measurable positive impact on society and the environment as its corporate purpose.

Our vision: in-space servicing and transportation enabling profitable business and human expansion in a sustainable space environment.

Space is a natural resource that must be used responsibly for the benefit of both people and the environment.

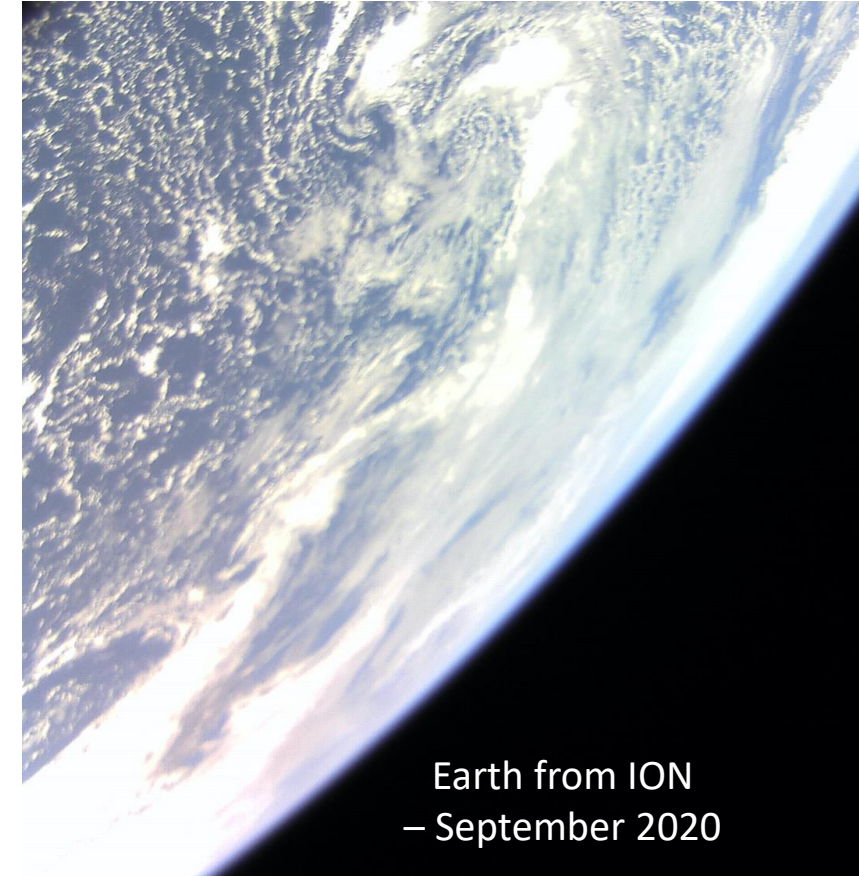




D-Orbit – Products and Services

ION Satellite Carrier and developments for IOS:

- **ION:** a free-flying spacecraft that transports satellites into their desired operational orbit and deploys them into precise orbital slots after the performance of collision analysis enabling release of satellites in lower risk orbital positions.
- **In-orbit servicing:** the use of robotics-equipped satellite platforms to extend the life of satellites, move satellites to new orbits, and to decommission them at the end of their life.



Earth from ION
– September 2020



D-Orbit – Products and Services

D3: an **independent, smart propulsive autonomous decommissioning device** that helps reduce the growth of space debris, maintain orbits clean from uncontrolled satellites, and reduces collision risk.

D-Sense: a **multi-sensor module** capable of tracking the position of the Sun, the Earth's horizon and magnetic field, and the angular rate of the spacecraft, data from which can be a key source of information for space surveillance and tracking activities and complement existing debris catalogues.

NOCTUA: a space-based end-to-end service to collect, process and analyze data from a specifically designed high-resolution synthetic aperture radar (SAR) satellite, and distribute critical information to public institutions, private companies, and citizens.



D-Orbit – Capacity Building Initiatives

D-Orbit Academy: a training and professional development programme for current and future D-Orbit team members, and outreach activities in the local community.

Distributed Space: a long-cycle, cost neutral, expansion business model to enable effective and low-cost access to space for countries that do not have the resources to develop their own space programme.



D-ORBIT –
CONNECTION WITH
THE LTS GUIDELINES





D-ORBIT - Connection with LTS Guidelines (A)

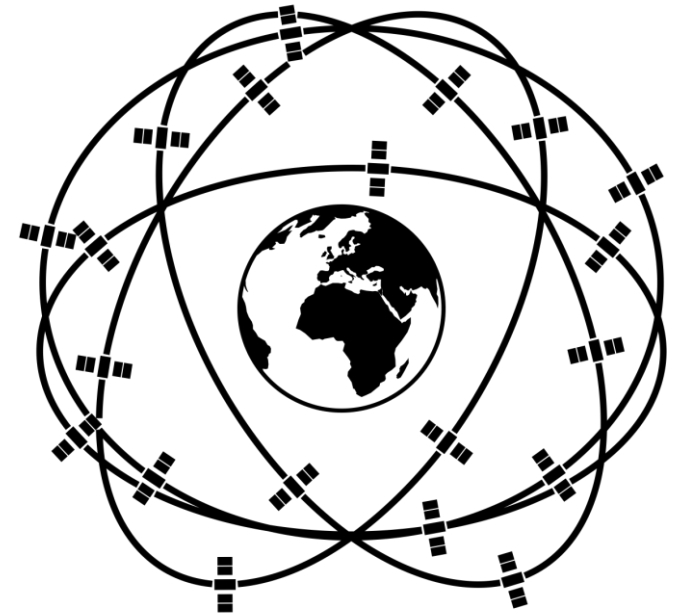
Technologies, products and services that by design address the risks associated with in-orbit operations and re-entry of space objects.

COLLISION ANALYSIS

D3

The principle of minimizing the impacts of human activities on Earth as well as on the outer space environment

B-CORP VISION AND PRINCIPLES





D-ORBIT - Connection with LTS Guidelines (B)

Perform conjunction assessment during all orbital phases of controlled flight

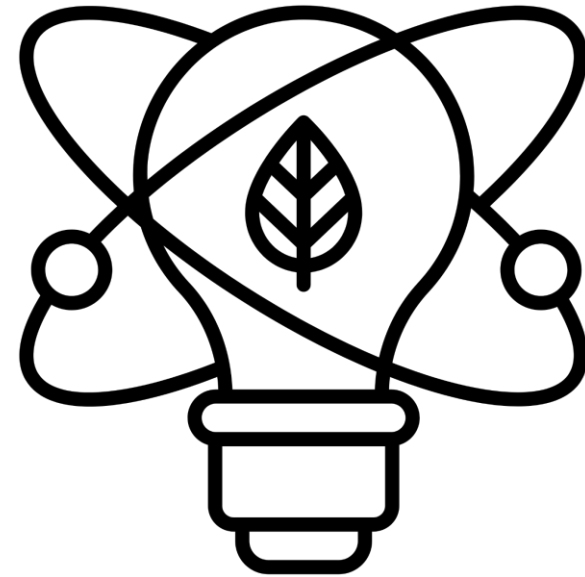
COLLISION ANALYSIS

ION

Design and operation of space objects regardless of their physical and operational characteristics

D3

SUSTAINABLE
PROCUREMENT



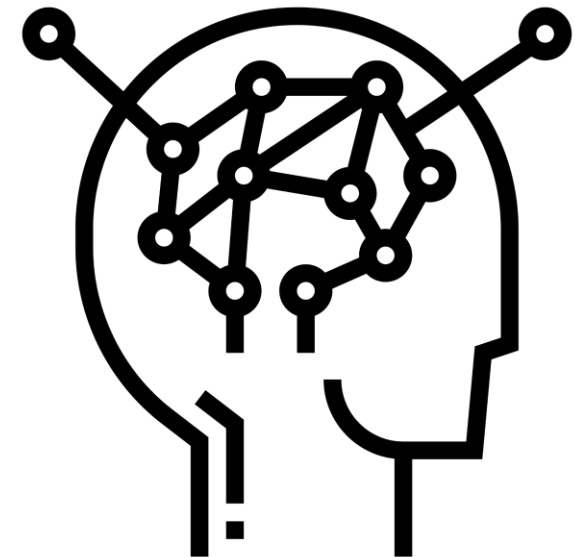


D-ORBIT - Connection with LTS Guidelines (C)

Assistance efforts to countries in gathering human and financial resources and achieving efficient technical capabilities, standards, regulatory frameworks and governance methods that support the long-term sustainability of outer space activities and sustainable development on Earth

D-ORBIT ACADEMY

DISTRIBUTED SPACE



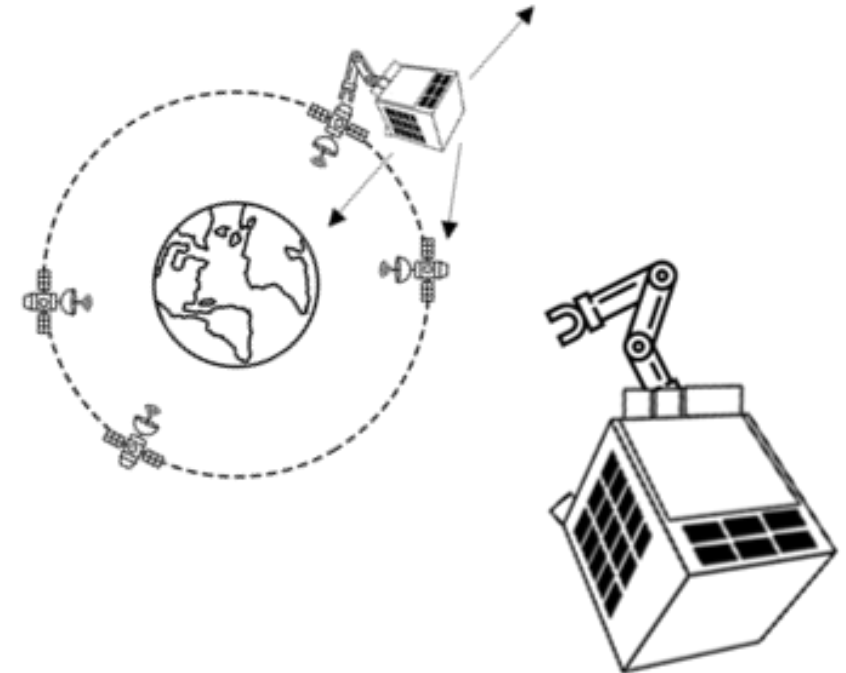


D-ORBIT - Connection with LTS Guidelines (D)

Promote and support R&D of ways to support sustainable exploration and use of outer space

Investigate and consider new measures to manage the space debris population in the long term

IN-ORBIT SERVICING



D-ORBIT –
SUSTAINABILITY
LESSONS LEARNED





D-ORBIT – Sustainability Lessons Learned

Quality: adopt and comply with high quality standards so that space activities are conducted in a sustainable way.

Collaboration: face challenges by working together to unite distinct strengths and leverage respective resources and skills.

Coordination: issue of tracking of objects in the context of rideshare-launches of multiple small satellites.

Building our future: stop exponential technological development at the expense of our planet and shape the future of humanity by developing sustainable production processes, businesses, and lifestyles.



D - O R B I T
N E W S P A C E S O L U T I O N S