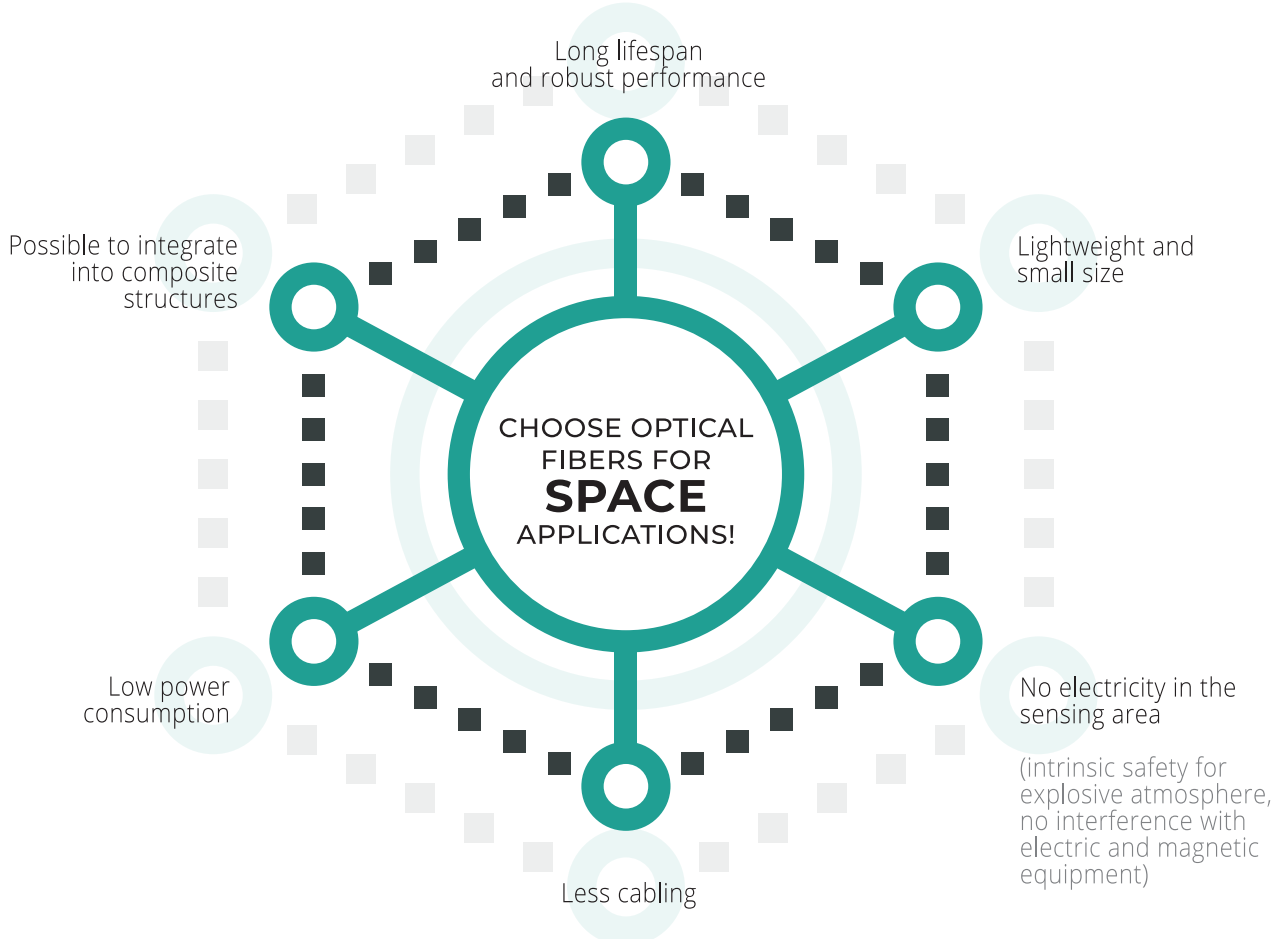

INNOVATION PHOTONICS TECHNOLOGY
FIBERS FOR
SPACE
Explore the unknown with our radiation
hardened photonics solutions

THE OPTICAL FIBERS ARE THE FUTURE OF SPACE

Photonics is a breath of fresh air for space equipment. Small, light and robust devices are a perfect solution for the harsh space environment. Unique features are achieved with our technology of hardening optical fibers and components against the disruptive influence of cosmic radiation.

WHY USE OPTICAL FIBERS IN SATELLITE PAYLOAD, LAUNCHERS, AND ANTENNAS?



OPTICAL FIBERS FOR TELECOM IN SPACE

Telecom satellites reach a new level of data transmission with InPhoTech's space-dedicated photonics components. Complete solutions that include multicore passive and active fibers, fan-in/out devices and many more, provide state-of-the-art technology for highly demanding space applications.

EXAMPLE:

Multicore fibers for optical amplifiers in telecom satellites

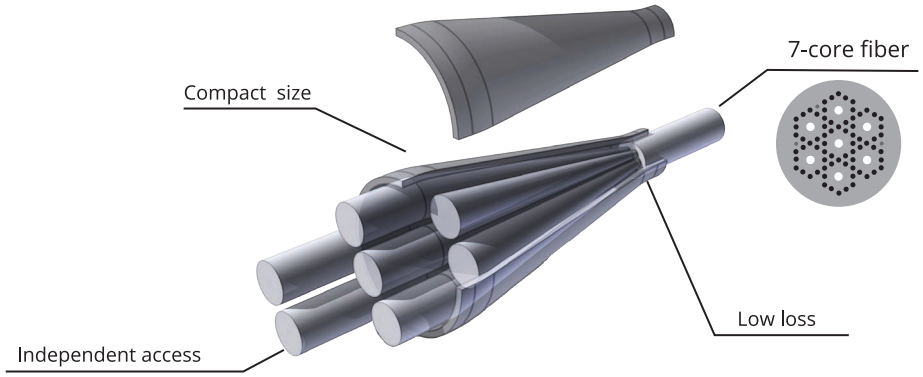
CHALLENGES:

- Preparation of optical fibers for the harsh environment in space
  - High and low temperatures
  - Presence of radiation
- Decreasing the power consumption
- Reducing the cost of an array of optical fiber amplifiers
- Reducing the amount of cabling

INPHOTECH'S SOLUTIONS:

Radiation hardened multicore fibers for optical amplifiers

Dedicated elements for integrating multicore and single core fibers with each other



OPTICAL FIBERS BRING SENSING IN SPACE TO THE NEW LEVEL

Space exploration needs extremely robust and radiation hardened devices. The unique properties of our sensors can fulfil even the most demanding expectations. Light and compact sensors can be utilised for sensing various parameters such as temperature, gas concentration, pressure, and strain.

EXAMPLE:

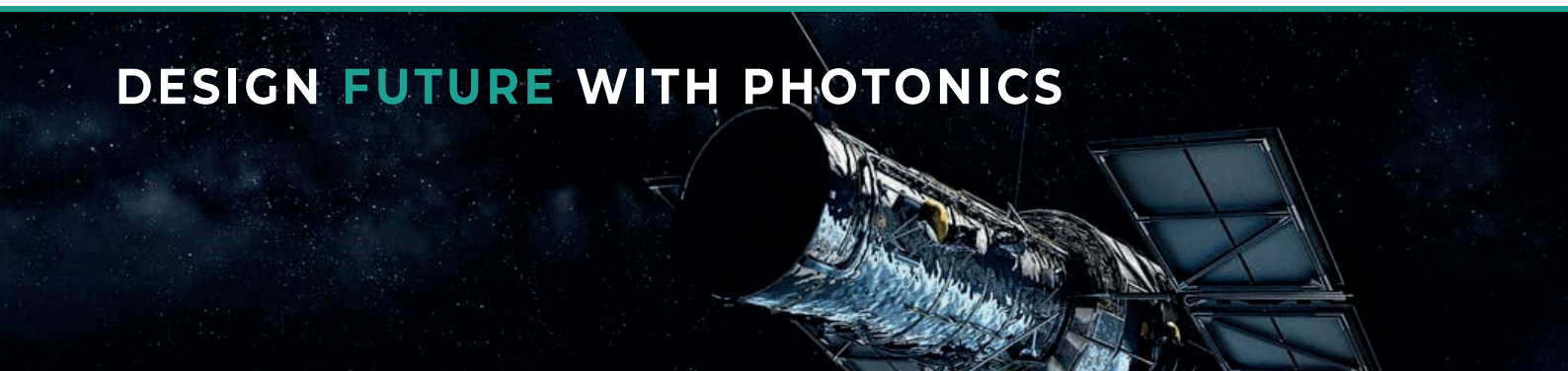
Creation of a system of ultra-reliable **optical fiber sensors for harsh environments**

CHALLENGES:

- Immunity to electromagnetic fields
- Demand for long lifespan and failure-free operation
- Decreasing the power consumption
- Reducing the mass and volume
- Resistance to extreme temperatures
- High measurement accuracy

INPHOTECH'S SOLUTIONS:

- Special fiber coating assuring resistance to harsh environments including temperatures up to 1000°C as well as thermal shocks
- Specialty fiber technology making fibers immune to ionizing radiation
- State-of-the-art optical-fiber-based devices assuring excellent measurement precision



DESIGN FUTURE WITH INPHOTECH

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