

OPTICAL COMMUNICATION TERMINALS FOR THE MASSES

OPTICAL COMMUNICATION TERMINAL DEVELOPMENT IN THALES ALENIA SPACE



! OPTICAL TERMINALS



Mastering Optical Communication from Design to Production

END-TO-END SYSTEM CAPABILITY

- / A FULL RANGE OF COMPETENCES - FROM SATELLITE SYSTEM DESIGN TO TERMINALS

KEY PRODUCTS

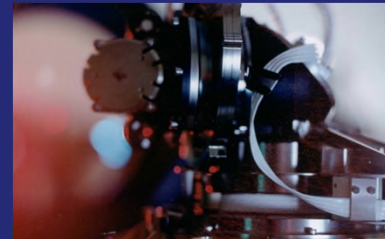
- / DIFFERENT TERMINALS OPTIMIZED FOR DIFFERENT APPLICATION

PRODUCTION

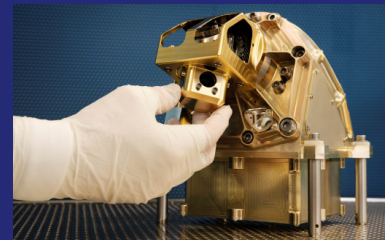
- / DESIGN FOR MANUFACTURING
- / INDUSTRIAL CAPABILITIES OF THALES GROUP ENABLES HIGH RATE

MASTER COMPLEX PROGRAMMES

- / RISK MANAGEMENT FROM SYSTEM TO EQUIPMENT
- / OPTIMIZED INTEGRATION AND VALIDATION SEQUENCE



OPTEL-02 –
1st Gen 2000



OPTEL-μ® –
2nd Gen 2018

HOW DO WE ADDRESS THE CHALLENGE



MAKE IT HAPPEN by

Bringing terrestrial technology into space

Cooperation with technology partners

Built, test and fly Hardware

ORIONAS Lasercom on-chip for satellite constellation

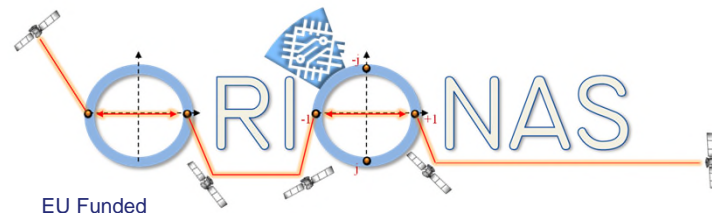
EU funded H2020 project with many partners

ESA Support for product developments

Technology roadmaps

PRODUCTS OPTEL-μ® - First Commercial DTE Terminal for Small Sats

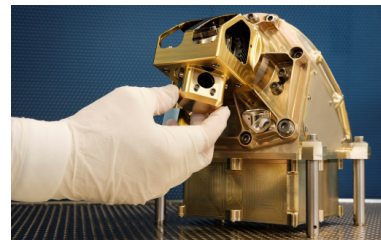
OPTEL-C – Constellation product



EU Funded

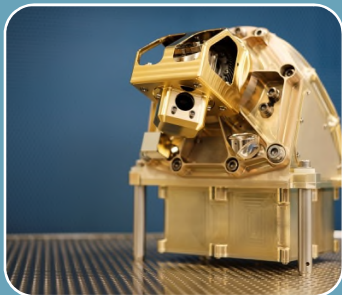


Financial &
Technical
Support



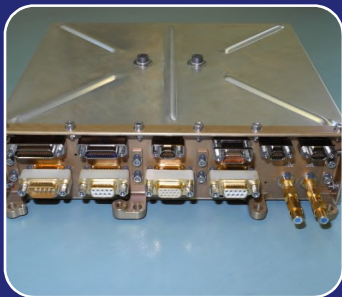
Products

KEY ELEMENTS IN OUR PRODUCTS



Very Robust and well proven Pointing, Acquisition, Tracking

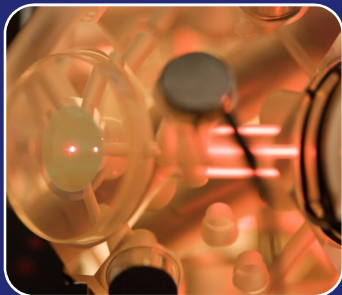
- Reduce thermal / mechanical requirement on platform
- Lower system cost and risk
- Reduces operation cost by fast acquisition



Smart Communication Solution

- Reduced complexity of Terminal subsystems
- Cost efficient and manufacturing robustness

KEY ELEMENTS IN OUR PRODUCTS



1550 nm COTS laser technology

- High Availability of components, technology, subsystems
- Terrestrial ecosystem allows optimized cost / performance



Low Cost / High Rate Production Design

- TAS / Thales Group cost efficient manufacturing capabilities
- Proven Space constellation manufacturing
- Fast integration on platform reduces AIT cost & Risk
- Flight proven building blocks

• OPTEL-μ[®] / OPTEL-C

/// Commercial Product line for wide variety of applications

OPTEL-μ[®]

- / FIRST COMMERCIAL DTE TERMINAL
- / OPTIMIZED FOR SMALL SATELLITES
- / 2 GBPS @ 45W
- / AUTONOMOUS BEAM STEERING
- / EASY TO ACCOMMODATE
- / ROBUST OPERATIONS

OPTEL-C

- / >10 GBIT FULL-DUPLEX OPERATIONS
- / ROBUST PAT DESIGN
- / EASY TO INTEGRATE
- / OPTIMIZED TO THE TAS / THALES GROUP PRODUCTION CAPABILITIES

MORE WILL FOLLOW TO MAKE OUR VISION REALITY

