

# TELESPAZIO IN THE UK

## Company Overview



***Telespazio UK's presence across ESA, national civil, national defence, and commercial space sectors presents a strong opportunity to unlock significant synergies. This includes the potential to commercially exploit ESA-funded R&D, enable dual-use applications within the UK, and drive efficiencies in the adoption of satellite solutions across government departments.***

***We are well placed to play a key role in supporting the delivery of the UK's National Space Strategy.***





# MARKETS & CAPABILITIES

With a pedigree in space technology stretching back nearly 50 years, Telespazio UK (TPZ UK) is an experienced consulting, technology, engineering and space services development business. A subsidiary of Telespazio S.p.A in Rome and co-located with Leonardo (the majority shareholder of the Telespazio Joint Venture), TPZ UK has built its first-class reputation by exploiting technology developments in Earth Observation (EO) and satellite navigation & communications, pioneering innovative services for customers across defence and security, institutional and commercial markets.

## MARKETS

### DEFENCE AND SECURITY

Defence & Security is a key strategic market for TPZ UK and we are recognised as a trusted supplier in providing critical satellite-derived services to military and civil security customers.

Our offerings span the key satellite technologies, as well as procurement support, security, ground segment solutions, and systems and operations engineering.

We work closely with Leonardo in the UK to provide space solutions in support of its programmes.

### COMMERCIAL

TPZ UK plays an essential engineering role in supporting a growing set of UK commercial organisations to develop their space technology and applications programmes and operations. These services and solutions include data applications and engineering support services and systems, and span the full array of satellite technology: Earth Observation and Geospatial, Navigation, and Satellite Communications.

TPZ UK's rich portfolio covers the full engineering life cycle of a project, from the definition of high-level system requirements down to end-to-end testing, validation, verification and integration, through to hosting or dissemination of information services to end customers.

### INSTITUTIONAL

TPZ UK is a key partner for the European Space Agency (ESA) and European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT), delivering services, projects and applications on a number of key programmes, including on data quality and data platforms.

TPZ UK is also responsible for the delivery of strategic national initiatives and operational services, including the software infrastructure for the Earth Observation Data Hub (EODH) and Defra's Data Services Platform (DSP).

TPZ UK is focused on innovation through its research and development unit, utilising institutional funding streams where appropriate to minimise investment risk and ultimately create impact in the defence and commercial marketplace.

## CAPABILITIES

› Data Quality

› Climate Risk

› Optical Comms

› Ground Segment

› Geospatial and EO-Enabled Applications

› Satcom and Cellular Convergence

› Data Platforms

› Cyber Security

› Positioning, Navigation and Timing (PNT)



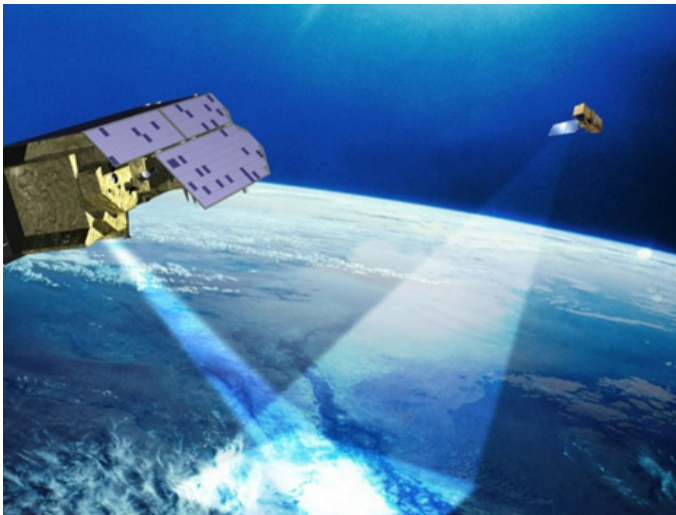
## GROUND SEGMENT

TPZ UK offers end-to-end ground segment solutions across Earth Observation, Navigation and Satellite Communications.

TPZ UK lead the design, development and testing for the ESA TRUTHS (Traceable Radiometry Underpinning Terrestrial- and Helio-Studies) mission ground segment, with responsibility for the flight operations system (FOS) and the core components of the payload data ground segment (PDGS).

Our capabilities encompass all elements of ground systems including:

- › Mission Control and Planning Systems
- › Integration and Validation platforms
- › Data Processing, Management, Quality Assessment & Provision



## DATA PLATFORMS

TPZ UK is the entrusted entity responsible for delivery of European and national data exploitation platforms for satellite, aerial and ground-based data sets.

TPZ UK prioritise the development of open-source solutions with the ability to federate with other platforms and facilities. TPZ UK work closely with the Open Geospatial Consortium (OGC) and follow and promote software best practice and standards.

Core features include:

- › Data Harvesting and Cataloguing
- › Application Programming Interface (API) Development
- › On-demand and Systematic Processing
- › Accounting and Billing

## POSITION, NAVIGATION & TIMING (PNT)

Resilient PNT is a priority growth area for Telespazio, and TPZ UK has an expanding offering and legacy in wide-ranging Resilient and Alternative PNT services and applications such as:

- › Thought leadership
- › Multi-systems, layered resilient PNT development, suitable for earth-based and lunar services.
- › Alternative PNT
- › Technology Development:
  - › Digital Signal Processing (DSP) algorithm design
  - › Software Receiver Development
  - › Field Programmable Gate Array (FPGA)

## GEOSPATIAL & EO-ENABLED APPLICATIONS

Daily, more than one thousand satellites capture detailed images and data from around the Earth. When this consistent capture of information in its many forms is combined with Geospatial technology, it can help uncover relationships between people and the planet and produce significant economic value and drive societal benefits.

TPZ UK develops EO applications to support the changing world, providing new insights and helping improve decision making with reliable data. Our applications can monitor critical infrastructure, maritime movements and extreme climatic events.



## DATA QUALITY

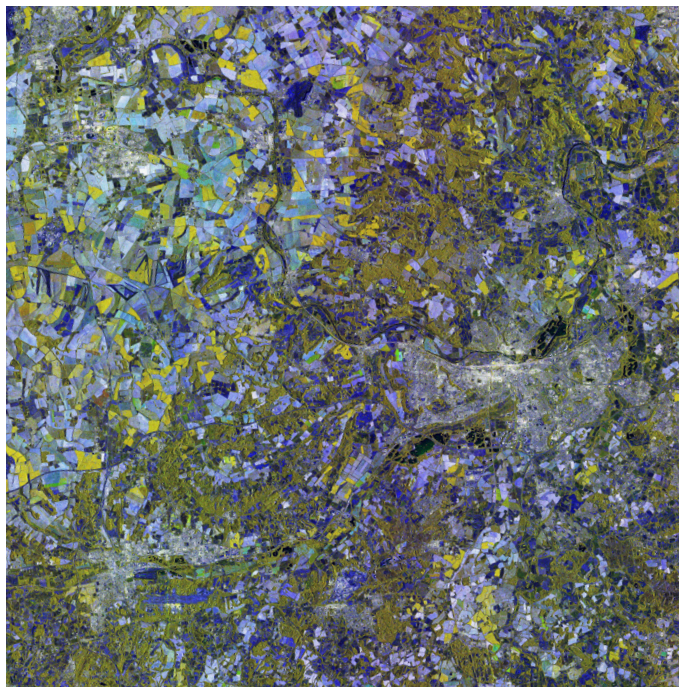
TPZ UK is a leader in EO data quality assessment and assurance, delivering quality assurance & quality control (QA/QC) services to institutional and commercial customers. EO data is vital to address critical societal challenges, whilst also presenting numerous economic opportunities.

We see data quality as a key priority to ensure the trustworthiness of EO data, to ensure its increased uptake within all sectors and to enable it to provide decision-critical information.

## CLIMATE RISK

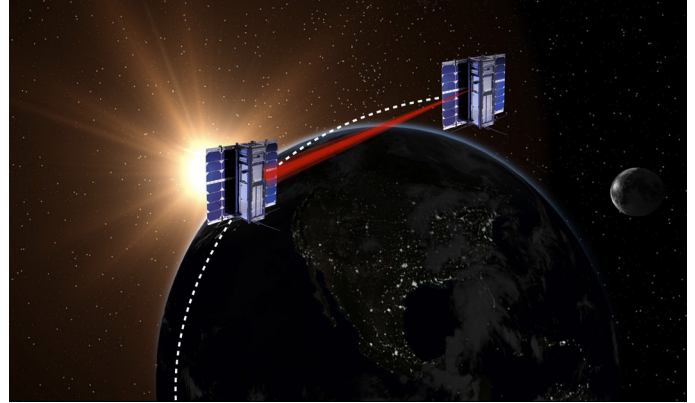
As a European industry leader in the provision of satellite observations for the climate change marketplace, the deep capabilities and knowledge TPZ UK has built up mean we are ideally placed to support private sector stakeholders in assessing the resilience of their business to a changing climate. TPZ UK climate capabilities span all aspects of the value chain from Data Management, System Development and Managed Services.

Having led the market-wide user requirements database for the Copernicus Climate Change Service (C3S) we have broad climate insight across multiple sectors such as agriculture & forestry, health, insurance, infrastructure. TPZ UK also developed the Climate Data Store (CDS) software infrastructure, which is a foundational pillar of the C3S and provides information about the past, present and future climate to ~150,000 users.



## OPTICAL COMMS

TPZ UK is working with leading UK partners to apply its vast experience in the design of system-level communications solutions and software-defined (SDR) technologies. We provide scalable coding/ decoding and terminal management solutions in electronics hardware, software and FPGA for the rapidly growing satellite optical communications market



## SATCOM & CELLULAR CONVERGENCE

TPZ UK is active in bringing Satcom together with terrestrial mobile networks to provide future seamless comms everywhere. Our work in '5G/6G Non Terrestrial Networks (NTN)' includes defining solutions for critical workers, building a reference user terminal for ESA and promoting approaches to interoperability testing.



## CYBER SECURITY

TPZ UK is experienced in Cyber Security for ground and space missions, covering a range of Security needs, including Requirements Definition, Security Assurance, Security Threat Analysis, Security Architecture, Policies and controls, and Security Testing strategies. TPZ UK also has capability in Cryptographic controls for both commercial and defence work.

TPZ UK support through prime contracts as well as through consultancy to government and industry at all stages of satellite programme delivery, and research for future threats and mitigations such as quantum challenges and evolving space capabilities.



# SERVICES

## APPLICATIONS & SERVICE PROVISION

We are experienced in developing, managing and maintaining services to national and European customers, often adhering to strict service level agreements; examples include:

- › Data quality service to ESA for its EO missions, to ensure trusted data is delivered to users
- › Data Services Platform to Defra to ensure management of national environmental data
- › Data brokering service to UK MoD, to ensure timely delivery of multi-supplier commercial EO data
- › 24/7 Maritime surveillance service to the Home Office to provide vessel detection intelligence



## SYSTEMS ENGINEERING

TPZ UK provides comprehensive space system integration services, encompassing concept of operations, design, development, qualification and operational support for satellite systems, ground segments, and downstream exploitation services, ensuring user-friendly, streamlined systems.

Our expertise supports government, institutional and commercial mission development and operations. Our services will create impact in both earth-based services and in the future emerging lunar economy.



## PROGRAMME SUPPORT & CONSULTING

TPZ UK provides support to institutional, defence & security, and commercial customer programmes. Our outstanding track record of delivery ensures multi-year partnerships, including on-site embedded team members. Key examples include:

- › On-site programme support at ESA premises, providing specialist skills in satellite communications / navigation, remote sensing, business applications, astronomy mission expert support.
- › On-site support to the UK MoD for the Skynet 6 Programme.

# INSPIRING THE NEXT GENERATION OF ENGINEERS

## A WEEK IN THE LIFE OF A SPACE ENGINEER

Annual I-STEM event: A Week in the Life of a Space Engineer provides students with the opportunity to learn key skills and pathways into a career in the space industry.

During the 5 days, participants develop their own satellite mission design project, attend space-related seminars, engage in technical demonstrations and have the opportunity to visit a space-related facilities. The week ends with a presentation of each group's design project; judges will award a prize to the winning project.

### Benefits:

- › Inspire students with a lasting interest in the Space Industry and STEM subjects
- › Provide students with new knowledge and skills relevant to the Space Industry
- › Give students a rich picture of what it's like to work in the Space Industry
- › Valuable experience to include in a CV or UCAS application form!

For further information, email [stem-uk@telespazio.com](mailto:stem-uk@telespazio.com)



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