



satuccino



Welcome to Satuccino

11th September 2024

Don't forget to join the Space Enterprise Community platform to find out about the latest space sector opportunities and events.

Visit www.spaceenterprise.uk to register.





Meet your hosts...

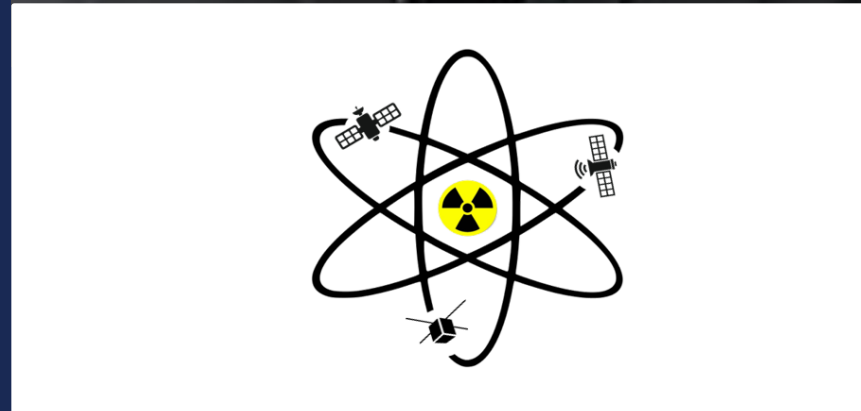


Melanie Clift,
Strategic Account Director
Defense & Security



Matt Holman
Capture Manager
Defense & Security

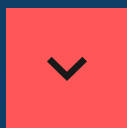


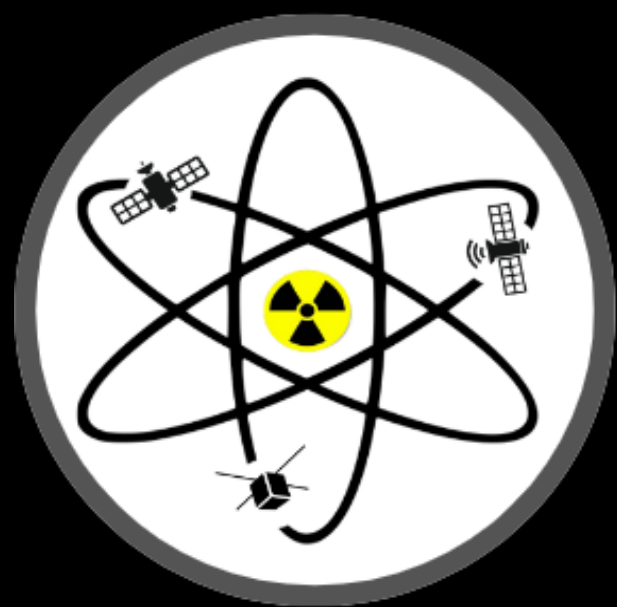


Tom Clatworthy

Director/Radiation Expert

Radiation Analysis Services Ltd



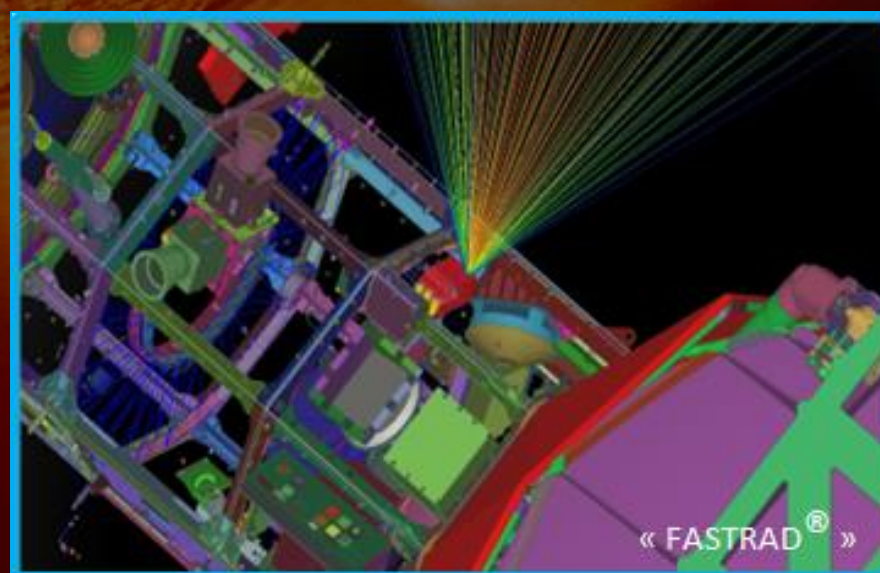


R
A
S
L

Space Radiation Specialist

Services Include:

- ✓ Detailed 3D Modelling of Equipment and Spacecraft
- ✓ TID/TNID Levels using Ray-tracing and Monte Carlo Analysis
- ✓ Prompt Dose (Dose Rate) Levels using Monte Carlo Analysis
- ✓ Efficient Shielding Solutions, High-Z and Layered Shielding
- ✓ Radiation Environment Generation and Analysis (Nat + Enh.)
- ✓ RHA, Component Selection and Using COTS Components
- ✓ SEE Impacts, Rates and Mitigations
- ✓ TID, TNID, SEE and PD Testing Support
- ✓ Internal Charging Analysis, ATOX Erosion Analysis



About RASL

Est. 2016

40+ customers to date
75+ successful missions

www.rasl.co.uk

LEO, MEO, GEO, Interplanetary

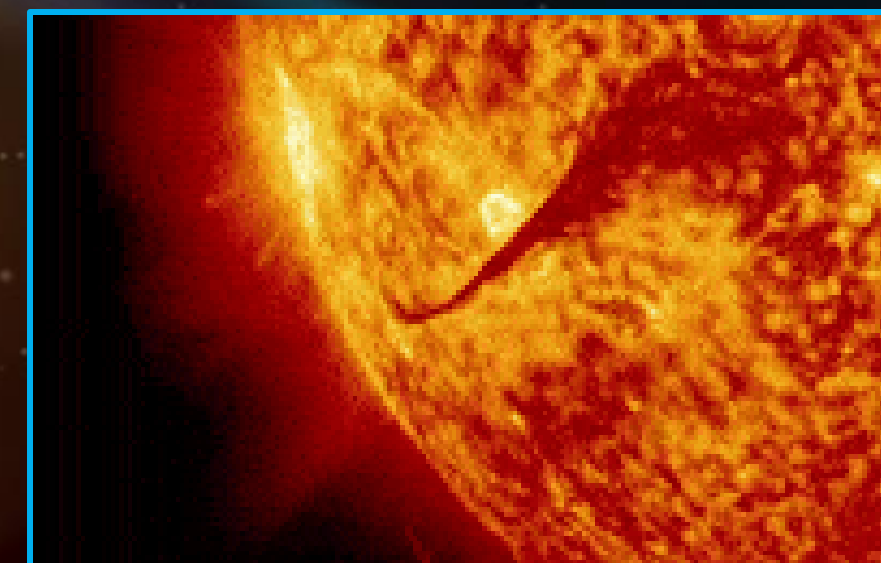
Telecoms

MilSatCom

Science

Navigation

Lunar





S U P E R S H  R P

A SATLANTIS COMPANY

Marco Gomez-Jenkins

CEO

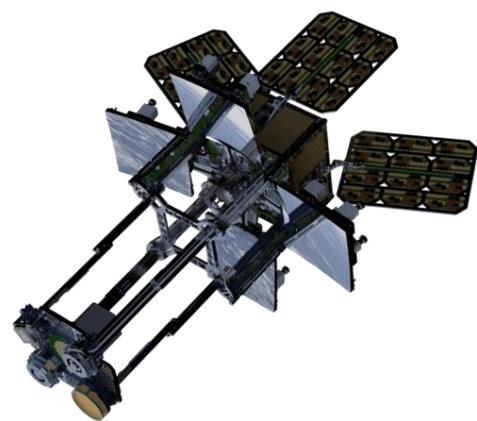
Super-Sharp Space Systems



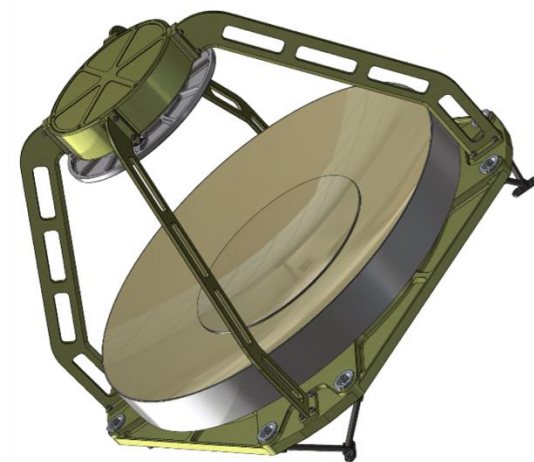
SuperSharp is a University of Cambridge spin-out set up to provide a vehicle for the commercialization of various space optics technologies. The company specializes in the design and manufacturing of high-resolution thermal infrared payloads for satellites.



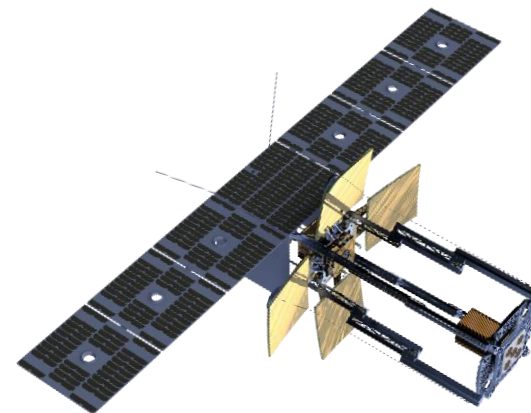
The in-orbit demonstration of the first telescope is scheduled for 2026, achieving 3m TIR resolution from LEO.



Lotus – 6m LWIR resolution



SPIRIT - Wide Field of View Telescope



Hibiscus– 3m LWIR/1.5m MWIR resolution



The team has secured approximately **£7M in contracts and grant funding** from leading institutions such as:



Defence and Security Accelerator

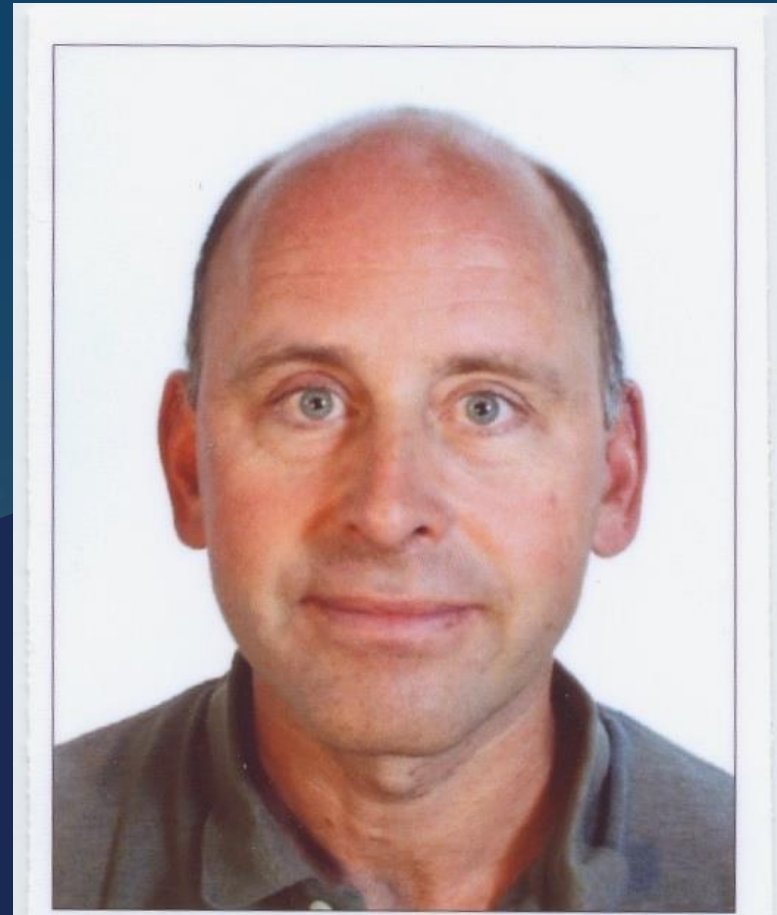


Ministry of Defence



Innovate UK



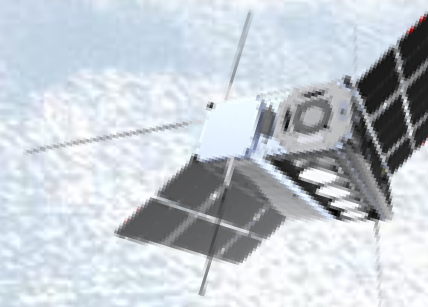


John Beckner

CEO

Horizon Technologies





John Beckner
CEO

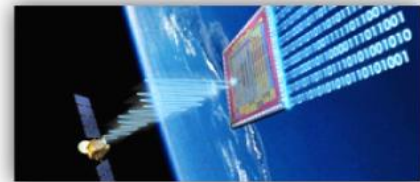
+491728905358

John.beckner@horizontechnologies.com

- Horizon Technologies is a provider of Intelligence Data and Systems:
 - Manned and Unmanned aircraft (BlackFish™ /BFX)
 - AmberPersistent™ Terrestrial Systems
 - Amber™
- Customers include US and UK Governments & are in operation worldwide
- Amber™, funded in part by the UKSA, is a constellation of wide area surveillance “always on” LEO satellites providing Maritime Domain Awareness (MDA) data via RF Collection
- Our systems collect L-band SatPhone and datalink emissions which include geolocations, metadata and content as well as X/S-band radar ESM data



Spacechips, Enabling the Global Space-Electronics Industry



On-Board Processing Products, Design Consultancy in Space Electronics,
Technical Marketing, Training and Business-Intelligence Services

Winner of New Company of 2017 & High-Reliability Product of 2016, 17 & 18

www.spacechips.co.uk

Dr. Rajan Bedi

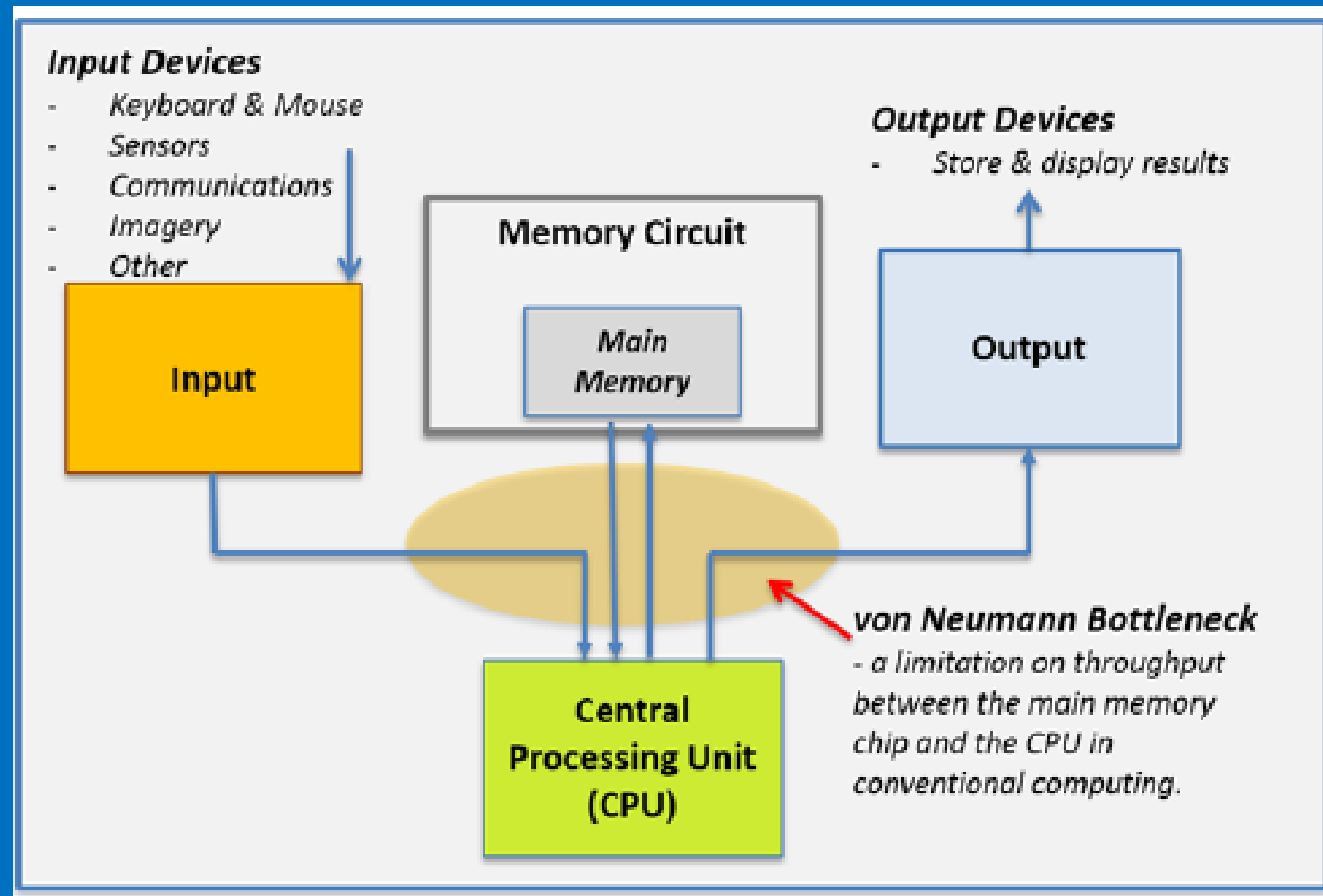
CEO

SPACECHIPS LTD



Associative Payload Processor

The Problem



The Solution





Charilaos Kourogiorgas

CTO

Atheras Analytics





ATHERAS ANALYTICS

Using Artificial Intelligence to minimise the cost and maximise the availability of satellite-delivered Internet services globally.

Charilaos 'Haris' Kourogioras – CTO and co-founder



Innovation of the
Year award 2023



Teleport Technology of
the Year 2024 Finalist



Silver
Business
Partner





EECL

European
Engineering &
Consultancy Ltd

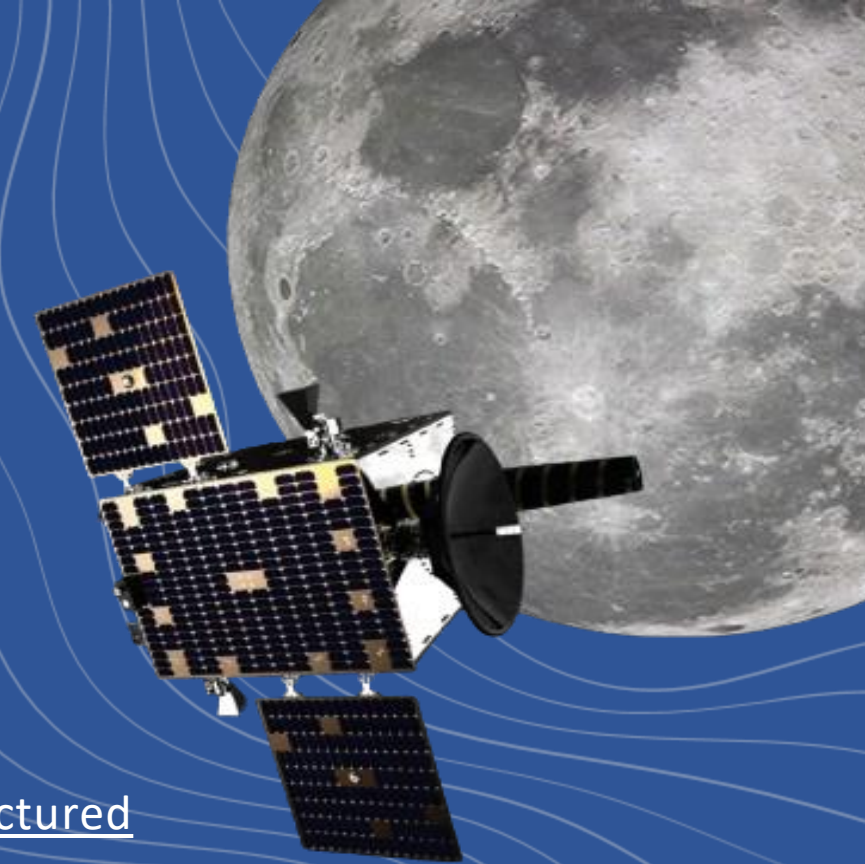
Ben Kieniewicz

Founder & CEO

EECL

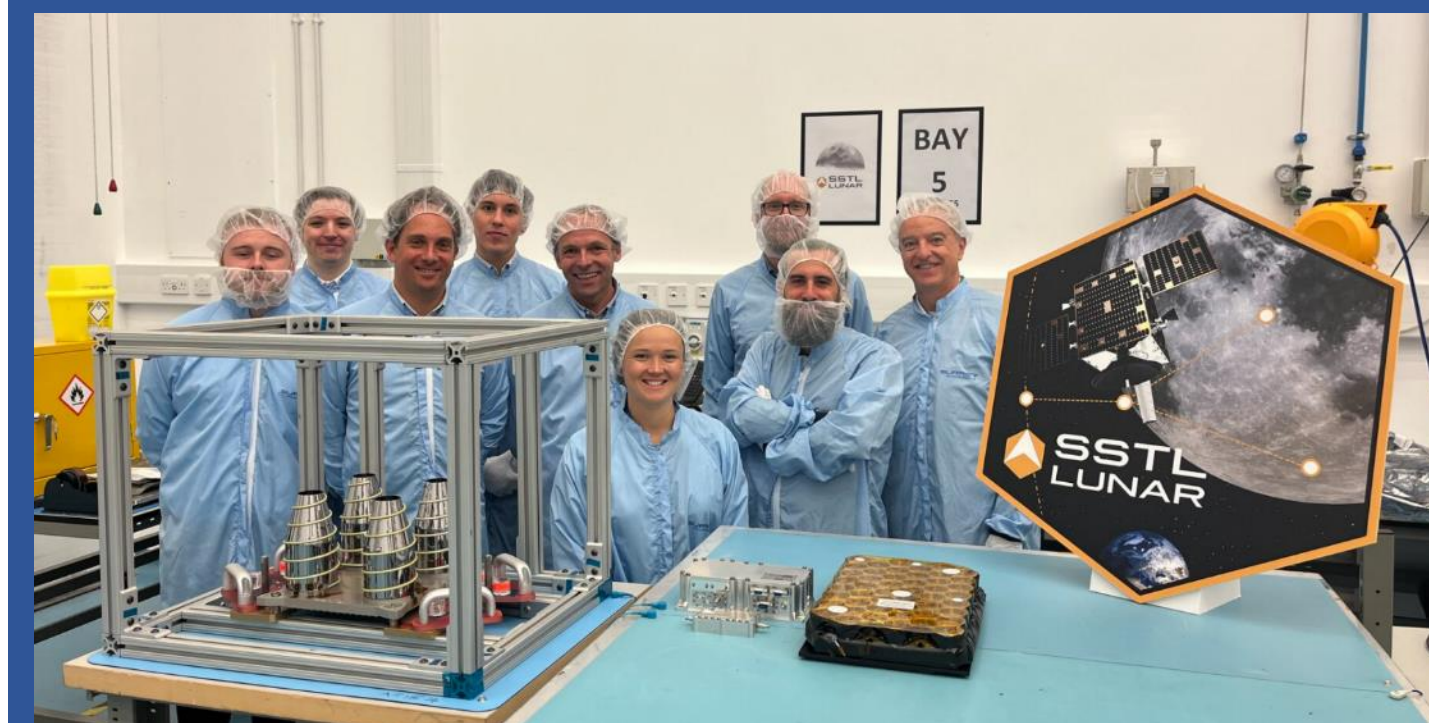
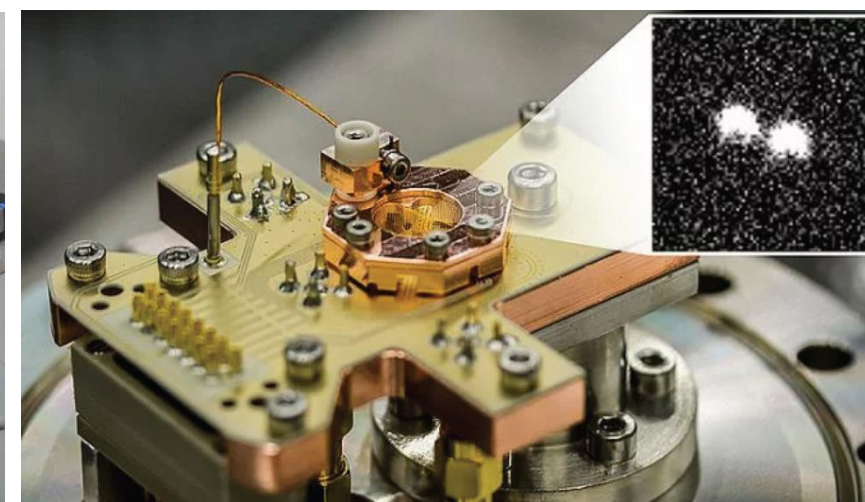
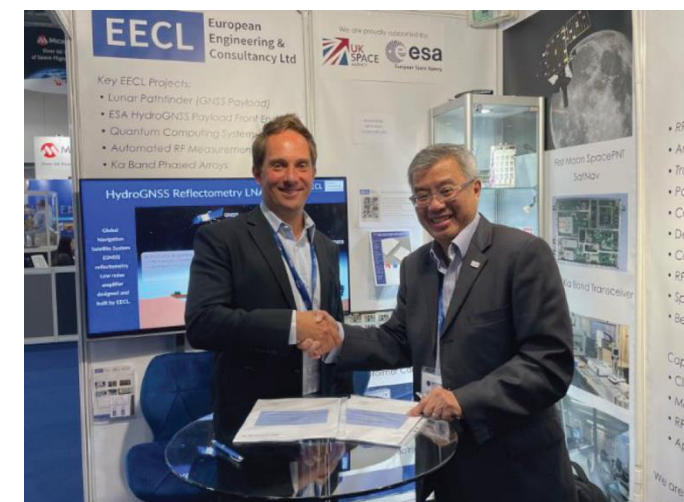


- RF & Microwave products for Space, Defence, Commercial and Quantum Computing.
- We provide bespoke advanced electronic solutions through concept, design, development and manufacturing.
- Supplier of Product: Automated Test Solutions for the RF Industry
- ISO-Class 7 Cleanroom and Class 8 Test & Measurement lab. Fully loaded with Equipment and Instrumentation.
- Space Product Assurance: EMC, Mechanical, Thermal, Radiation, Qualification.
- Previous projects include design consultancy for Airbus OneWeb Payloads (1200+).
- Solving Difficult RF Problems in short time scales.
- We are a growing Team of Capable RF expertise and consistently taking on more complex projects. Completed 20+ projects in 8 years ranging from £10k to £1million.



19 Flight Modules Manufactured

- World First GPS Hardware to Navigate on the Moon, ESA Lunar Pathfinder
- 9 Payloads for Remote sensing, ESA HydroGNSS
- 3 Payload Modules Remote Sensing – Amazonia-1B
- 1 Payload for International Space Station
- High-Spec Frequency Converters for Space Data Centers





ANGOKA

Liam Braeager

Strategic Projects Development
Manager

ANGOKA



DIGITAL INFRASTRUCTURE CHALLENGES



FUTURE SPACE ECONOMY

- Collections of Smart Systems: IOSM & ISTV
- Earth-based communication infrastructure not adequate for in-space communication



SPACE-BASED DIGITAL INFRASTRUCTURE

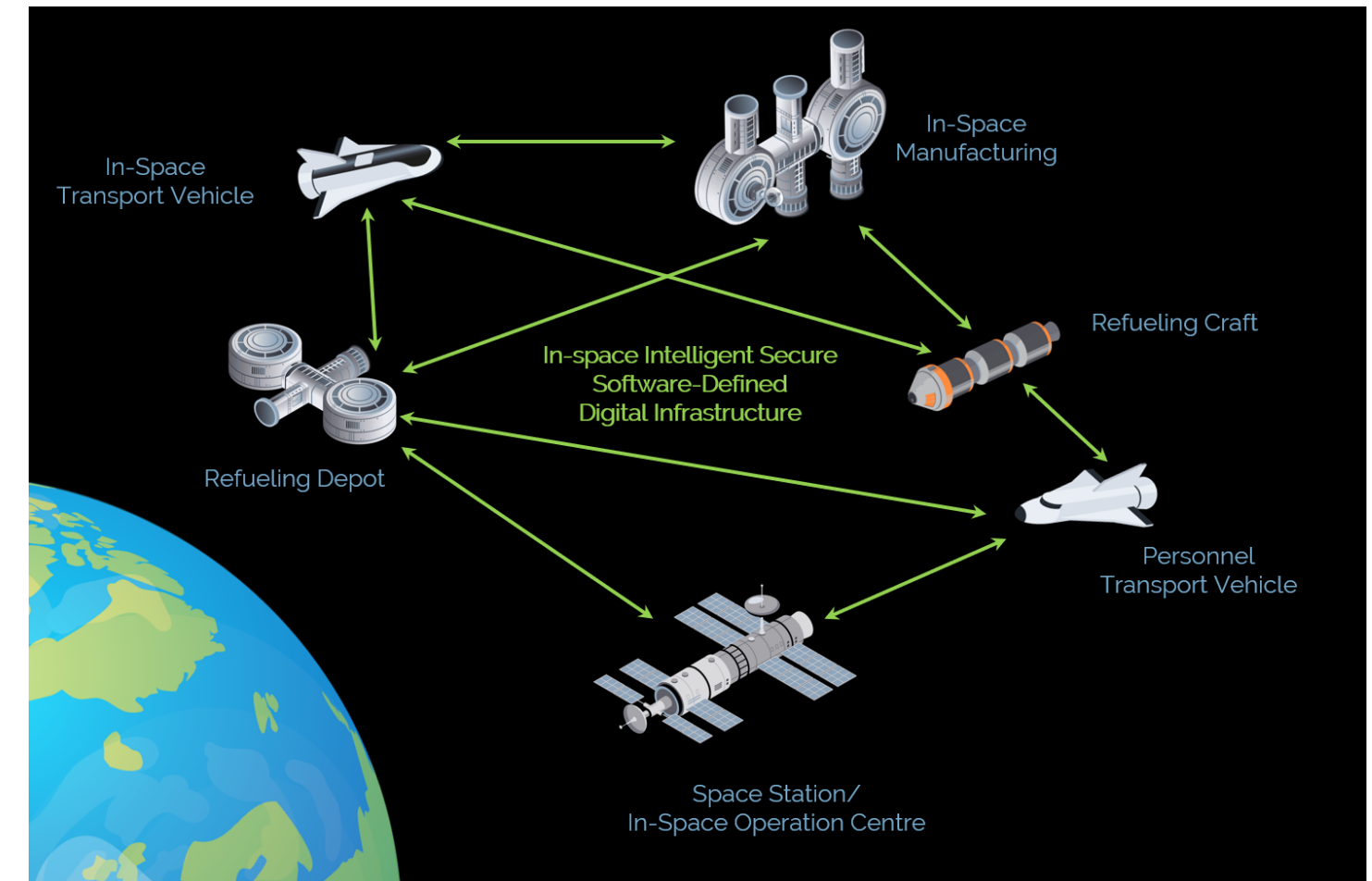
- Needs to support N-N communication
- Orbital Data Centres (ODC) being built
- Needs In-space Intelligent Secure Software-defined Digital Infrastructure

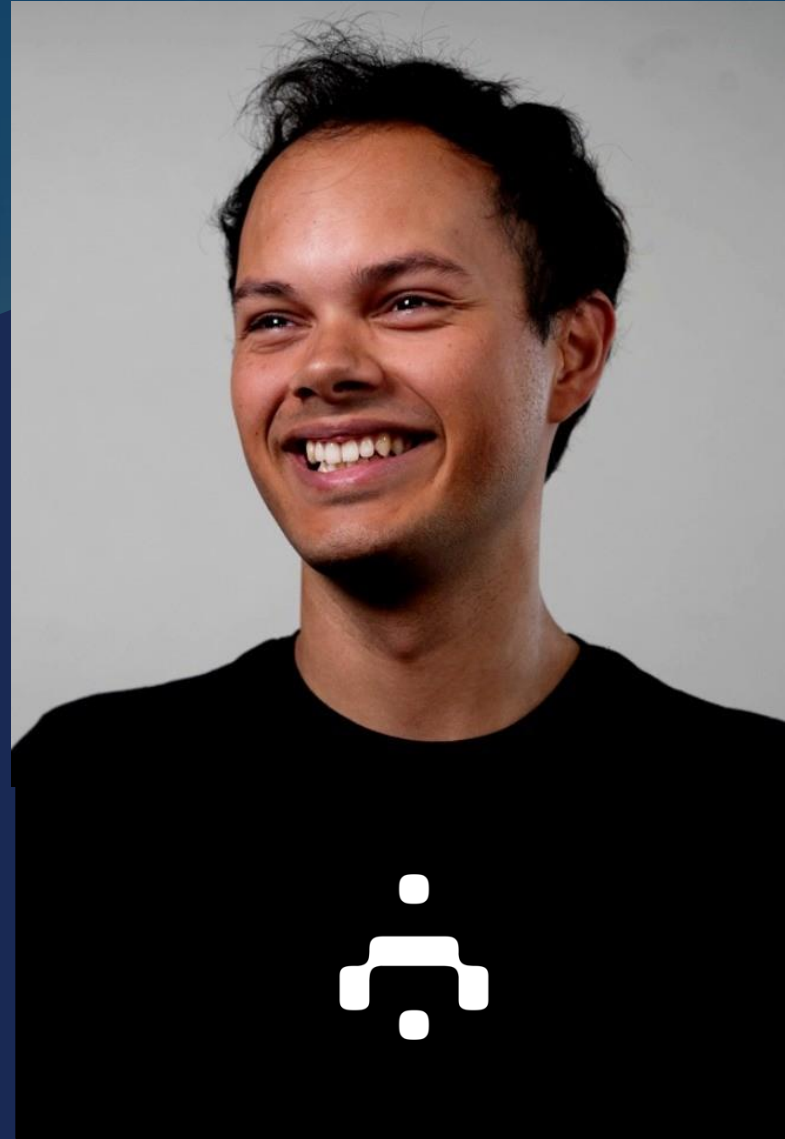


CYBER-PHYSICAL SECURITY

- Standard cybersecurity not adequate: PKI, Distributed Ledgers, SOCs, as they need heavy server infrastructure not transferrable to space
- Emerging threats from Quantum Computers, AI

➤ **Needs Cybersecurity Paradigm Shift**





Neil Buchanan

CEO & Co-Founder

Lodestar Space



LODESTAR

Securing the Frontier

Proliferated robotic capability to

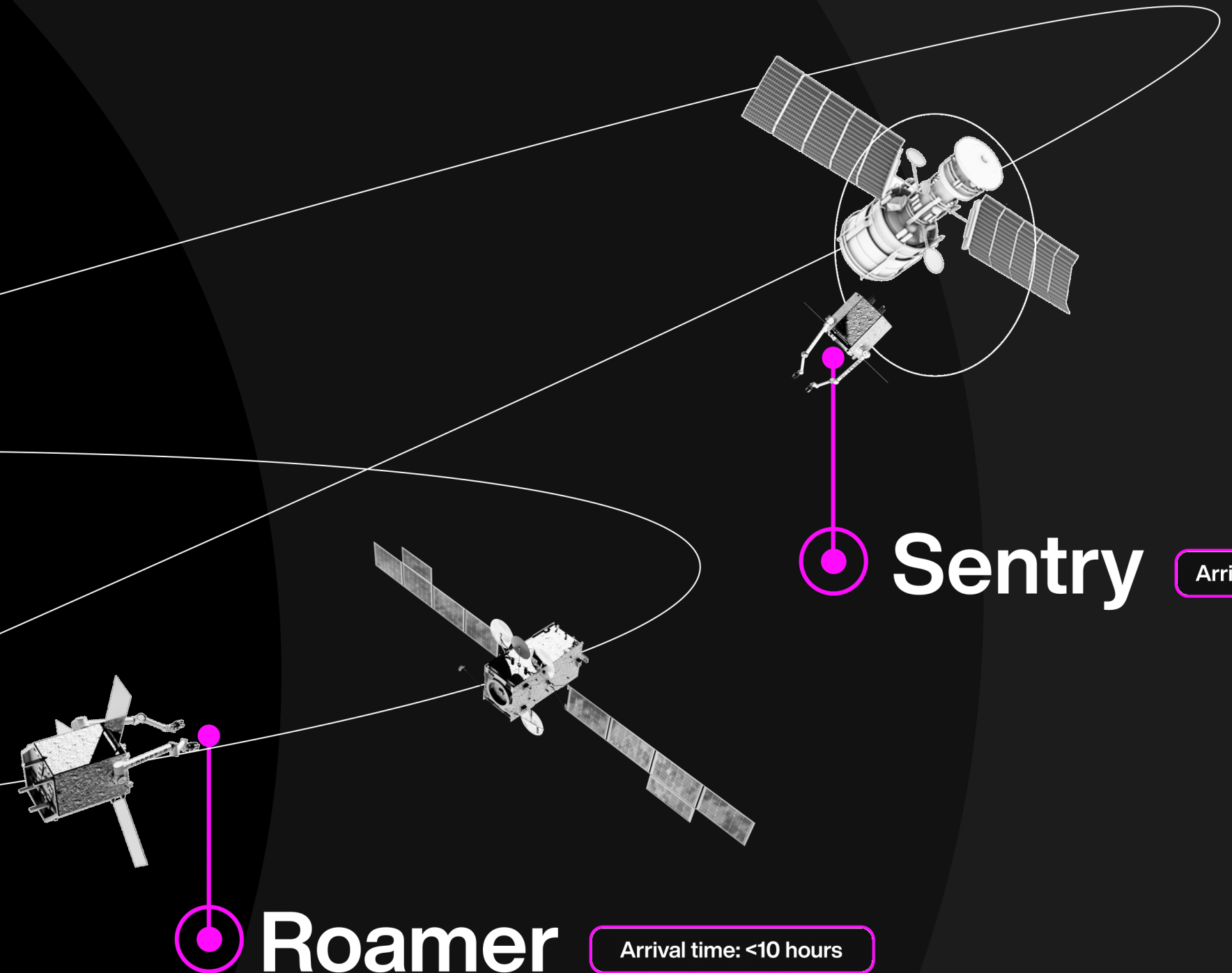
/ inspect

/ protect

/ repair

the space-based infrastructure that our democracies depend on.

lodestar.space



Sentry

Arrival time: 0 hours

Roamer

Arrival time: <10 hours

Backed by:



INFLECTION





Stuart Allan

CEO & Co-Founder

Astro Dynamic



ASTRO DYNAMIC

DATA SPHERE

The single source platform to access
all EO data



In Real Time

<https://astrodynamic.space/>



Stuart Allan
Founder & CEO



Ryan Horgan
CTO – Co-Founder



Vinay Williams
Lead Developer –
Co-Founder



Michel Poucet

CEO

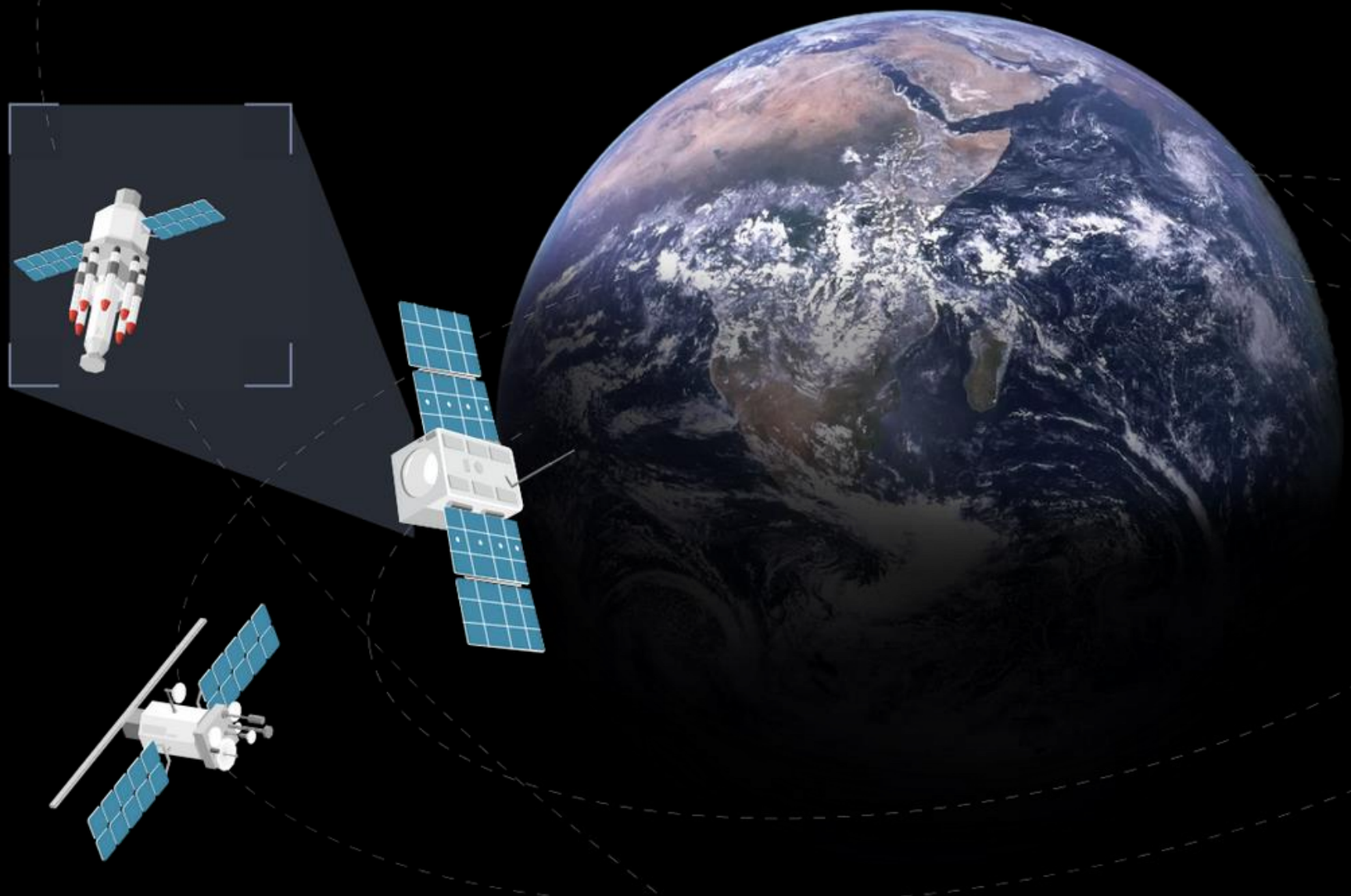
LMO



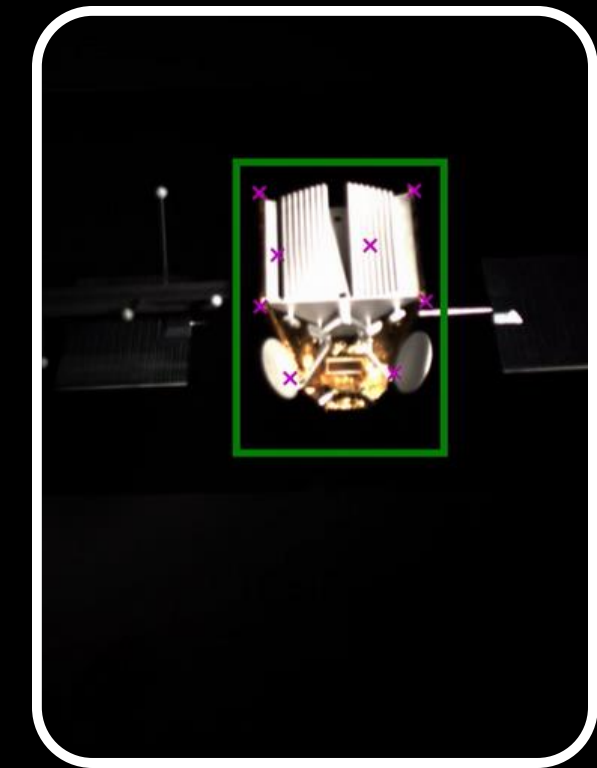


Enabling a Sustainable Use of Space

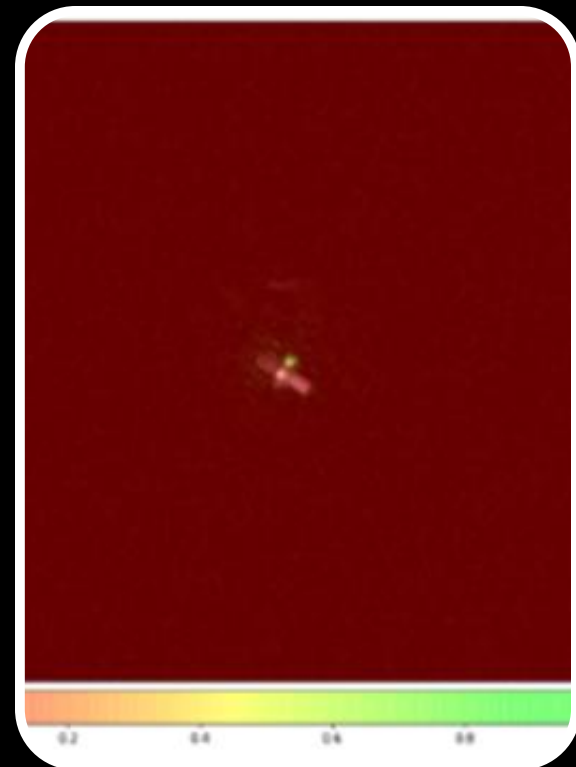
PROTECTING, DEFENDING & FIXING CRITICAL SPACE INFRASTRUCTURE



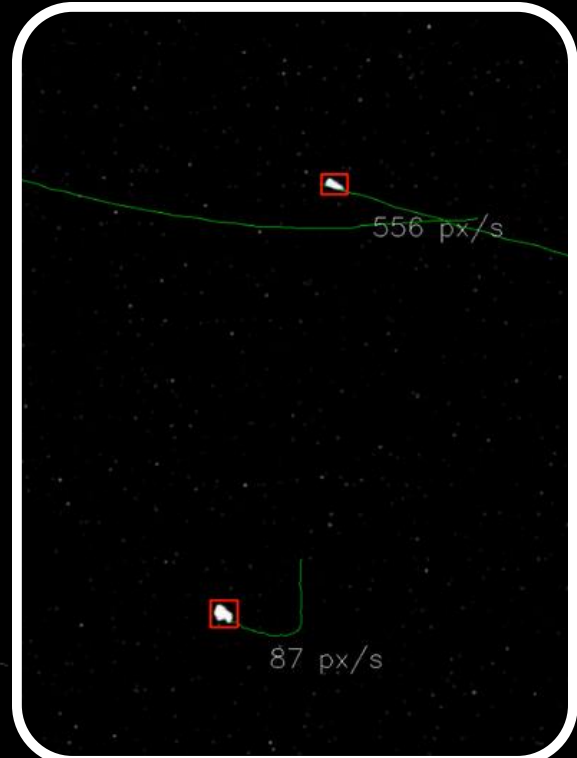
VISTA
Vision-based Intelligent System
for Targeted Approach and Docking



SPECTRE
Space based Characterisation
& Tracking Engine



ACTIVATE
Autonomous Characterisation, Tracking
& Identification Verification Engine



INSPECT
& RENDEZVOUS

IDENTIFY
& CHARACTERISE

DETECT
& TRACK



AUTONOMOUS PAYLOAD
FOR IOS & SDA



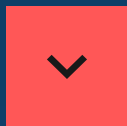
STARS EDGE
Innovating Space Mobility

A white rectangular box containing a professional headshot of Sara Alao, a woman with dark, wavy hair, wearing a blue top and a dark blazer. Below the photo is the Stars Edge logo, which includes a stylized star icon and the text "STARS EDGE" in a bold, sans-serif font, with "Innovating Space Mobility" in a smaller font underneath.

Sara Alao

CEO

Stars Edge





Stars Edge

Innovating Space Mobility

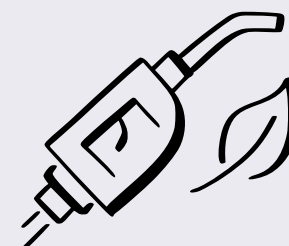
Very Low Earth Orbit (VLEO) is key for new Defence Satellites

Current propulsion systems struggle with low efficiency, short lifetime and high detectability

Introducing AERIS...



No Heat Signature, Magnetism, RF or Microwave



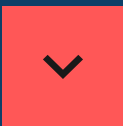
Refuellable in Atmosphere with Lifetime of 10-15 years



Throttleable design capable of operating in VLEO and LEO

Looking for defence partners to collaborate, pilot and deploy AERIS in VLEO





**optimal
cities.**

Silviu Pirvu

Co-Founder & CTO

Optimal Cities

optimal cities.

TODAY'S WAR FIGHTER REQUIRES STATE OF THE ART SPATIAL AWARENESS ESPECIALLY IN UNFAMILIAR CONTESTED AREAS

ABOUT

We are developing **OPHANIM**, the world's leading defence spatial planning decision support system. **OPHANIM** combines proprietary AI with accessibility, satellites, wearables & sensors. The core team is based in UK & USA.

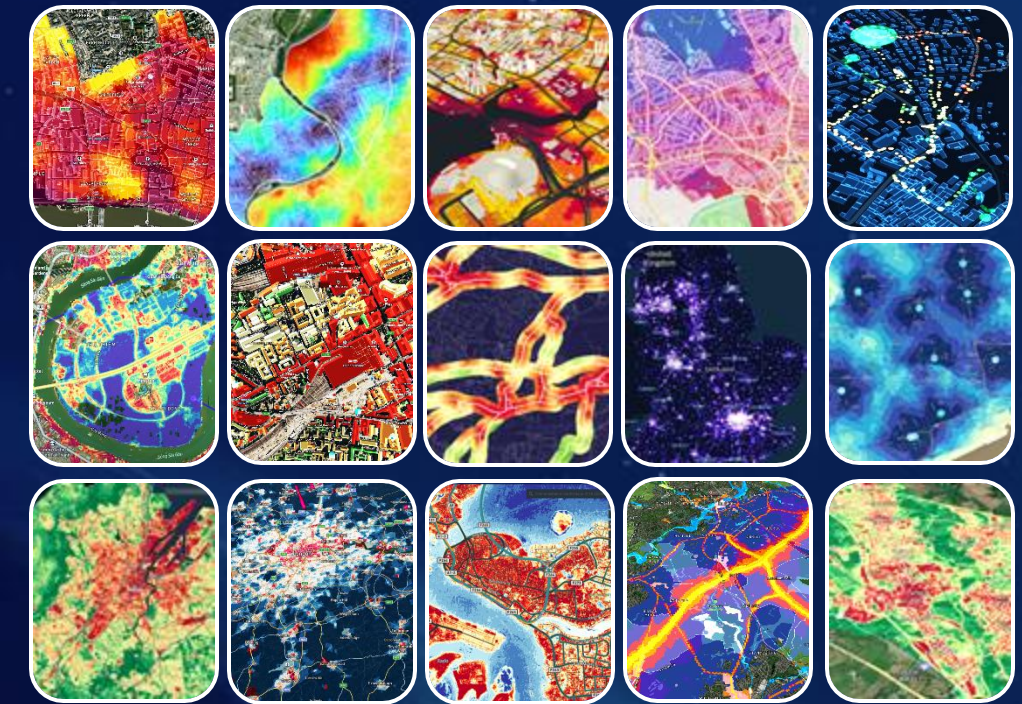
MULTI-SECTOR EXPERTISE SINCE 1980:

EO, AI, Health in Extreme Environ, Stress Monitoring, SpaceTech, Spatial Planning, Re/Insurance, Telecoms

CLIENTS: Gov, Planners, Drone OEMs

PROBLEM:

- In the theatre **stress influences performance** and puts lives at risk – suicide is the 3rd leading cause of death in the US Military, 7th in the UK.
- Lack of knowledge of alternative routes and solutions in the face of a **changing battlefield**
- Information flow is fragmented and not delivered in an **intuitive way**.
- Planning for resilience is slow and complex.



THE SOLUTION: OPHANIM

Helps understanding & thriving in a contested, imperfect, intelligence-starved environment to dynamically map:

- **Humans as sensors: monitoring for effectiveness**
- **Mission-specific risks & vulnerabilities.**
- Situational awareness.

OPHANIM helps to understand:

- Environmental assets & hazards
- Stress level in relation to spatial factors
- The vulnerabilities of adversary supply chains
- Changes in spatial accessibility during a conflict
- How the supply chain can be adapted and strengthened from brigade to section level

CONTACT: Silviu Pirvu FRSA, CTO: silviu@optimalcities.com



Openarc
Space

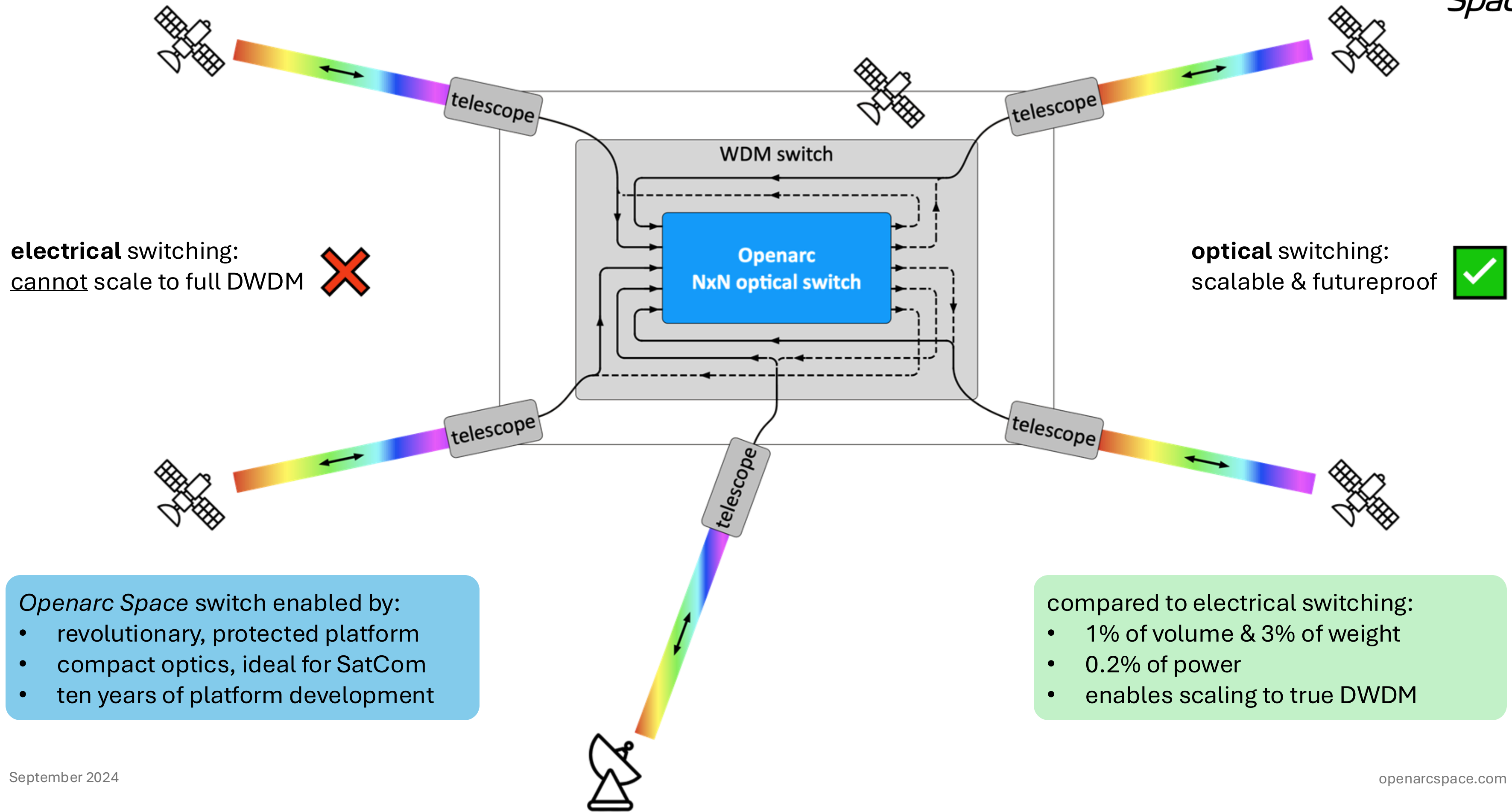
Peter Wilkinson

CTO

Openarc Space



all-optical SatCom switching



electrical switching:
cannot scale to full DWDM ❌

optical switching:
scalable & futureproof ✅

Openarc Space switch enabled by:

- revolutionary, protected platform
- compact optics, ideal for SatCom
- ten years of platform development

compared to electrical switching:

- 1% of volume & 3% of weight
- 0.2% of power
- enables scaling to true DWDM



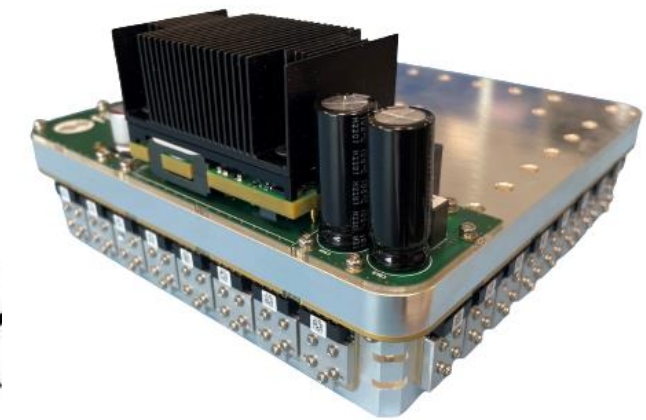
Tudor Williams

CTO

Filtronic

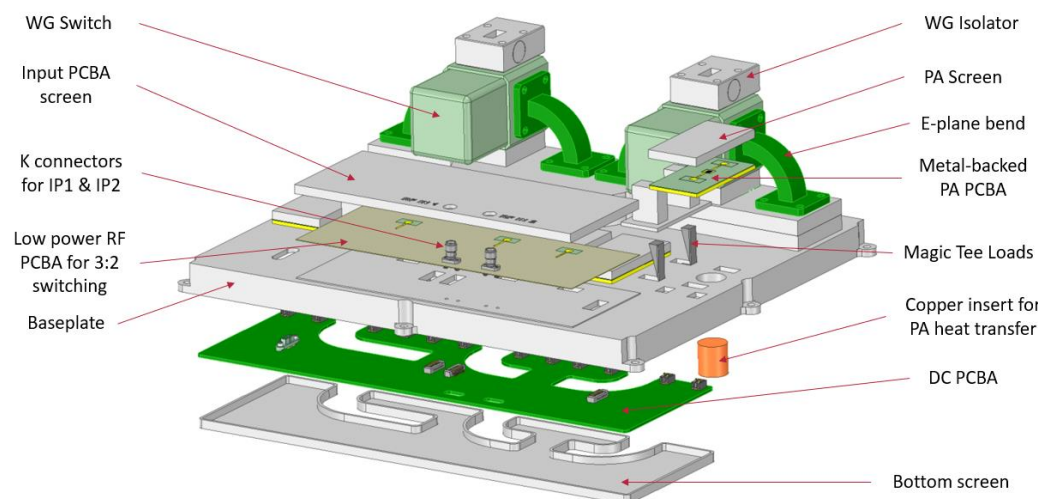


Proven expertise in the design, manufacture, and testing of complex microwave and mmWave modules and subsystems for Defense, Aerospace, and Space applications, all within a secure UK facility.



ESA Artes €3.7M Contract for LEO Payload Development

- K-Band Transmit Module
- Ka-Band Receive Module
- Q-Band Transmit Module
- V-Band Receive Module



SPACEX

Strategic Partnership with SpaceX for Starlink Constellation > \$40M orders to date

For ground stations developed very high-Power Solid state power amplifiers

E-Band (71-86GHz) > 20W (released)

V-Band (47-52 GHz) > 60W/250W (Development)

Demonstrated ground to Air links with bandwidths up to 40GB/s - (Google X Loon, Facebook Aquilla)

Mike Nicholls, Vice President of Starlink Engineering , "Filtronic is an outstanding supplier for Starlink. They match our rate ramp and increasing demand for high-quality parts. Their strong engineering teams have taken ownership of their production process to meet our needs, taking their designs from wafer to functional unit."

Commercial in confidence

Confidential & Proprietary - Filtronic plc- © Filtronic plc 2024.





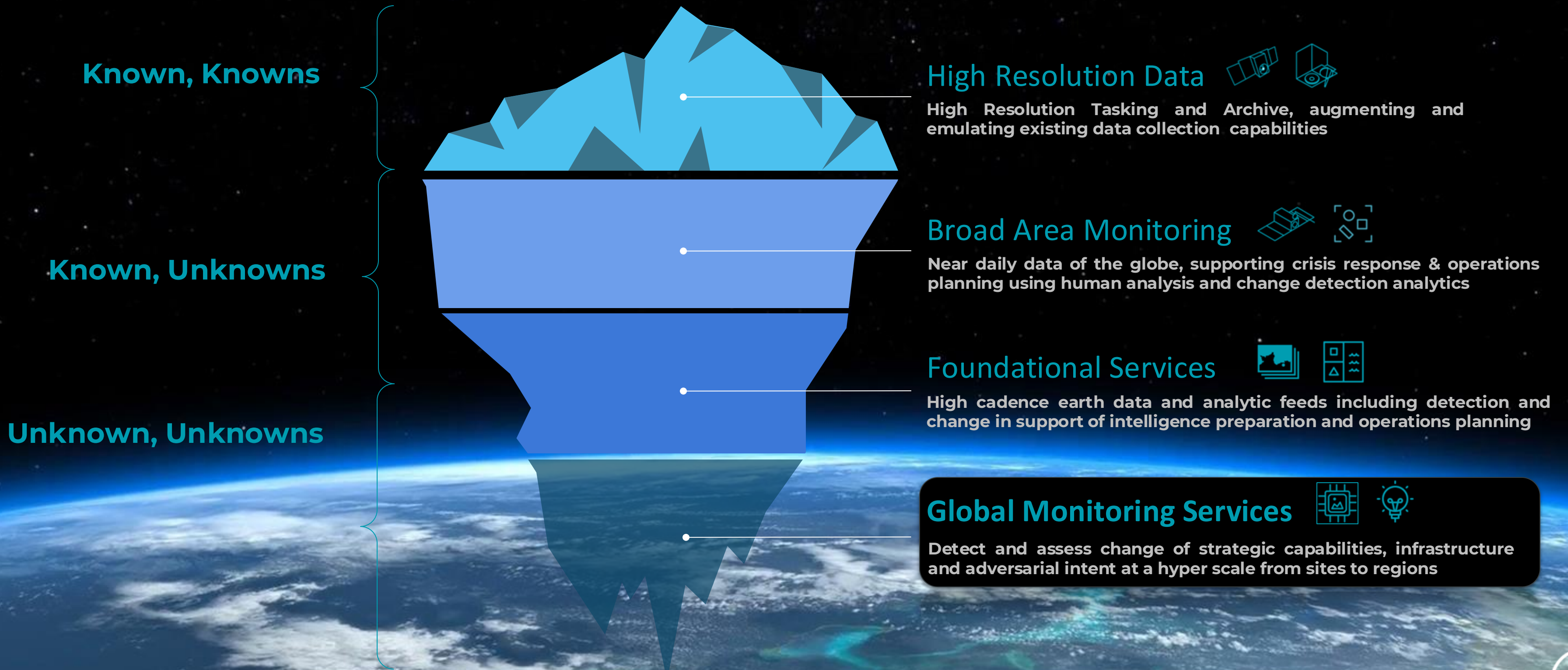
Mark Richardson

Director, Defense & Intelligence EMEA

Planet Labs



planet. Near-daily imaging of Earth





Welcome to the Space Enterprise Community

A community platform to connect, collaborate, innovate and access the latest news and events

Driving UK growth in Space by connecting commercial, academic, research and public sector stakeholders

Register now

Login



SPACE ENTERPRISE COMMUNITY

Home News Events People Organisations Opportunities Groups Resources UK Space Ecosystem About

PEMD
International Conference on Power Electronics, Machines and Drives
23 - 24 October 2023 | Brussels Marriott Hotel Grand Place, Brussels, Belgium
10 - 12 June 2024 | East Midlands Conference Centre, Nottingham, UK
Register your place for 2023

10 International Conference on Power Electronics, ...
Date: 10 June 2024 00:00 - 13 June 2024 23:3...
Location: Nottingham, UK

EuroGNC - Guida Navigation, Cont
Date: 11 June 2024 09:00 - 13 Ju
Location: Bristol, UK

11 EuroGNC - Guida Navigation, Cont
Date: 11 June 2024 09:00 - 13 Ju
Location: Bristol, UK

SPACE NORTH

12 How the North of England can make the UK a Space...
Date: 12 June 2024 08:00 - 09:30 UTC
Location: Armouries Dr, Leeds LS10 1LT, UK

LUNAR SYMPO
16-21 JU

16 European Lunar Symposium
Date: 16 June 2024 09:00 - 21 Ju
Location: Dumfries, UK

Results (51) Sort by: Newest

 SBRI - UK National Active Debris Removal (ADR) Mission... United Kingdom This is a Small Business Research Initiative (SBRI) competition funded by the UK Space...	 SoCal-UK Space Accelerator United Kingdom Mandala Space Ventures, a Southern California based venture studio and leader in supporting...	 Responsible AI UK: skills programme United Kingdom https://www.ukri.org/opportunity/responsible-ai-uk-skills-programme/?...	 STFC Early stage research and development scheme United Kingdom Deadline 17th July 2023 - This call aims to support commercialisation of technology or...
 SpaceFounders United Kingdom Deadline 20th May 2023 - Accelerator programme is looking for European (including...	 ESA kick-start funding United Kingdom Deadline 7th June 2023 - Kick-Start is a feasibility study lasting six months to...	 Connectivity in Low Earth Orbit (C-LEO) programme - open call United Kingdom Expression of Interest Deadline 8 May 2024	 Addressing environmental challenges: NERC highlight... United Kingdom Closing Date 9th October 2024 - Apply for funding to address one of five environmental...

Scan here to register



www.spaceenterprise.uk





Next Event

Wednesday 2nd October

Electron Building, Harwell & Online





satuccino

CATAPULT
Satellite Applications

Thank you

Don't forget to join the Space Enterprise Community platform to find out about the latest space sector opportunities and events.

Visit www.spaceenterprise.uk to register.

